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The Variable Learning Effects of Two Types of Intervention on L2 Communication Skills Using Interactive Tasks.

Margaret Ann Powers

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**The variable learning effects of two types of intervention on L2
communication skills using interactive tasks**

Powers, Margaret Ann, Ph.D.

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The Variable Learning Effects of Two Types of
Intervention on L2 Communication Skills
Using Interactive Tasks

A Dissertation

Submitted to the Graduate Faculty of the
Louisiana State University and
Agricultural and Mechanical College
in partial fulfillment of the
requirements for the degree of
Doctor of Philosophy

in

The Department of Curriculum and Instruction

by
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Abstract

This study evaluated the benefits of a task-based procedure used to develop L2 communicative effectiveness in spoken English among a group of advanced proficiency learners. Using two interactive information-exchange map tasks, one diagram task, and two intervening discussion sessions, the study attempted to investigate the actual communicative outcomes of interaction prompted by the tasks and by the interventions.

Subjects in three conditions first performed a map task designed with four referential problems which had to be solved to successfully complete the task. Immediately following the map task, the subjects in the first condition participated in a discussion session in which the nature of the referential problems was the focus. Subjects in the second condition took part in an intervening discussion whose focus was the linguistic features of the language used to perform the task. The third condition contained no intervention and served as the experimental control group.

After the intervention events, subjects performed another map task designed with referential problems similar to those in the first map. Following the second map task, the subjects were given a diagram task to perform. The diagram was analogous to the map tasks and contained the same types of referential problems.

A fourth condition provided baseline data for the diagram task by having subjects perform only that task, without benefit of practice on either of the map tasks.

It was found that, when the intervening discussion focused on linguistic aspects of task performance, speakers tended to adopt a noticeably more speaker-centered perspective in a subsequent communicative task.

When referential aspects of the task were discussed, subsequent communicative performance was characterized by a more listener-oriented perspective. The findings suggested that L2 communicative effectiveness in an information-exchange task is enhanced when the speaker is led to take the listener's needs into account rather than focusing primarily on the form of the speaker's message.

CHAPTER ONE

Introduction

The current study is an attempt to evaluate the effectiveness of particular kinds of training within a task-based learning approach to second language (L2) teaching. In order to build a framework for an approach which narrowly examines the usefulness of certain types of materials and modes of instruction, it is necessary to establish pertinent background concepts of second language teaching and learning, as well as arguments for why a task-based approach is generally considered an acceptable means of facilitating second language acquisition (SLA) and communicative effectiveness.

The Post-War Period

Modern second/foreign language teaching may be traced to the period immediately following World War II, when a substantial change in attitude toward the teaching of spoken language, as opposed to the teaching of reading, writing and grammar, took place. The traditional grammar-translation approach to language teaching, with a few exceptions such as the direct method in the early twentieth century (e.g., Brown, 1980; Lado, 1964; Simoes, 1976), had been absorbed by writing, grammatical structure, and the learning of vocabulary, all with the aim of translation from the first language (L1) to the second language (L2) (e.g., Dodson, 1967; Kelly, 1969). According to Stern (1983), " The major defect of grammar-translation lies in the overemphasis on the language as a mass of rules (and exceptions) and in the limitations of practice techniques which never emancipate the learner from the dominance of the first language" (p. 455). Despite early and current opposition, grammar-translation is employed even today, if only as a

contribution to other strategies. One has only to examine currently used textbooks, particularly in the area of foreign language teaching in the United States, to confirm the stronghold of grammar-translation.

The audio-lingual approach

The large-scale change that took place from 1945 to the present was primarily related to an emphasis on spoken skills; that is, that learning a L2 should focus on learning to speak the L2, rather than to write or translate it. The best known development out of that trend was what came to be known as the audio-lingual method (ALM) (see Brooks, 1964; Carroll, 1964; Omaggio, 1986; Rivers, 1964, 1981). The *Longman Dictionary of Applied Linguistics* (Richards, Platt, & Weber, 1985) defines audio-lingualism as “a method of foreign or second language teaching which (a) emphasizes the teaching of speaking and listening before reading and writing, (b) uses dialogues and drills, (c) discourages use of the mother tongue in the classroom, and (d) often makes use of contrastive analysis” (p. 21).

Audio-lingualism focused on the spoken language, and it had in its support a psychological theory known as behaviorism, defined by the *Longman Dictionary of Applied Linguistics* (Richards, Platt, & Weber, 1985) as:

a theory of psychology which states that human and animal behaviour can and should be studied in terms of physical processes only. It led to theories of learning which explained how an external event (a stimulus) caused a change in the behaviour of an individual (a response) without using concepts like ‘mind’ or ‘ideas’, or any kind of mental behaviour.

Behaviourism was an important influence on psychology, education, and language teaching, especially in the United States, and was used by psychologists like Skinner, Osgood, and Staats to explain first language learning. (p. 27)

The linguistic theory on which the audio-lingual approach was based is known as structuralism. Structural linguistics is described as:

an approach to linguistics which stresses the importance of language as a system and which investigates the place that linguistic units such as sounds, words, sentences have within this system.

Structural linguists, for example, studied the distribution of sound within the words of a language; that is, whether certain sounds appear only at the beginning of words or also in the middle or at the end (Richards, Platt, & Weber, 1985, p. 276).

Audio-lingualism took a certain perspective on how to develop spoken skills in a L2, expressed well by Carroll (1964): "In view of the large number of new habits that must be made as highly automatic as possible, successful second language learning requires a considerable investment of time, a major proportion of which must be spent in repetitive drill" (p. 43). Rivers (1964) characterized ALM as "basically a process of mechanical habit formation. Good habits are formed by giving correct responses rather than by making mistakes, by memorizing dialogues and performing pattern drills" (p. 19). Following the structural linguists' stand, Bloomfield (1942) asserted that:

The command of a language is not a matter of knowledge: the speakers are quite unable to describe the habits that make up their language. The command of a language is a matter of practice. . . . Language learning is overlearning: anything else is of no use. (p. 12)

Bloomfield's assertion is a strong version of what linguists in the structuralist, or descriptivist, school promoted as an approach to teaching not only oral skills, but all aspects of a language. This joining of structural linguistics and behaviorist psychology resulted in a new theory of language learning which described the learning process in terms of conditioning. The theory was first translated into practice in the 1940s at the Defense Language Institute and from there began to dominate academic programs in the United States in the 1950s and 1960s. The five basic tenets of the audiolingual method listed in Chastain (1976) are summarized as follows:

1. The goal of second language teaching is to develop in students the same abilities that native speakers have. Students should therefore eventually handle the language at an *unconscious* level.
2. The native language should be banned from the classroom; a "cultural island" should be maintained. Teach L2 without reference to L1.
3. Students learn languages through stimulus-response (S-R) techniques. Students should learn to speak without attention to *how* the language is put together. They should not be given time to think about their answers. Dialogue memorization and pattern drills are the means by which conditioned responses are achieved.
4. Pattern drills are to be taught initially without explanation given, and the discussion of grammar should be kept very brief.
5. In developing the four skills (i.e., speaking, listening, reading, and writing), the natural sequence followed in learning the native language should be maintained. (pp. 111-112)

The enthusiasm with which L2 teachers had originally received this revolutionary method eventually weakened. First, the method did not produce the bilingual speakers it had promised by the end of instruction. Secondly, teachers and students seemed to find the avoidance of grammar discussion frustrating and, in the end, time consuming. Also, the continuous repetition and memorizing were monotonous to students and teachers. Even when the drills were meaningful, the repetition effectively eliminated the contextualization and meaningfulness of the language. Moreover, there was an underlying assumption that giving drills for a learner to perform necessarily led to the learner's acquiring not only the structure that was being drilled, but every other example of each type of structure; or it was assumed that somehow out of the course materials students would get everything they would ever need to say in the L2. Given the impossibility of that assumption, it must have been accepted that drilling on some exemplars would enable students to operate successfully with other exemplars. However, little evidence was found to show that what was assumed to be happening with the learners was in fact happening. By the early 1970s, teachers were looking for alternatives to ALM, or at least a way to adapt the approach to their needs and their students' needs (Omaggio, 1986).

Despite the disenchantment teachers experienced with ALM approaches, some audiolingual-like exercises still exist in current pedagogy in the form of practice and pattern drills in many second language course books. Recent texts such as those by Gilbert (1984) and Prator and Robinett (1985) make extensive use of teacher-led, self-study, and cassette-taped drills for pronunciation and listening comprehension practice. These listen-and-repeat drills are not far removed from the practice and pattern drills of ALM.

The Communicative Movement

When reactions came against ALM, the direction was not back to the written language or grammar-translation; rather, it was toward a more “natural” perspective on what spoken language performance actually involved, recognizing that perhaps drills or the learning of dialogues were not representative of the kinds of demands normally placed on spoken language users. This attitude led to the birth of structural, or situational, language teaching (cf. Halliday, McIntosh, & Stevens, 1964; Pittman, 1963); that is, spoken language teaching in which an attempt is made, through the instructional materials, to create scenarios and role plays, where students would practice exercises such as “a visit to the doctor” or “a trip to the museum.” These kinds of activities constituted a movement away from simple drills and repetitive grammar practice. Views of language developed in which meaning, context, and situation were given prominence in the development of syllabuses: “The emphasis now is on the description of language activity as part of the whole complex of events which, together with the participants and relevant objects, make up actual situations” (Halliday, McIntosh, & Stevens, 1964, p. 38). However, situational language teaching once again created scripts and dialogues, or so-called directed conversations (Rivers & Temperley, 1978), for students to memorize or read aloud in class. These activities were similar to the ALM exercises, except that situational teaching provided a context within which to practice the features of the language. This approach was originally popularized in Britain and Europe, but the concepts made their way into American classrooms as well. The approach was incorporated into later versions of audiolingual methodology, where the dialogues that were constructed for situations such as “a visit to the

doctor” contained exercises intended for drilling expressions and structures in the dialogue, rather than grammar and parts of speech. Interestingly, the conversations were notable for the frequency with which particular structures occurred in them. One could see that there was an underlying grammatical syllabus to the activities, such that in any one situation every speaker might be required to use the past perfect, present continuous, or some other discrete grammatical form. Therefore, the language was, in fact, still being viewed as its grammar, which was being learned by practicing phrases, expressions, or whole dialogues, still by habit formation. A basic assumption was that what teachers presented in materials had a direct relationship to what learners learned in the language.

Communicative competence

The major change that occurred about this time was inspired by the concept of communicative competence (Hymes, 1972), which led to what has become known as the communicative approach. The idea of communicative competence (Hymes, 1972) was in part a reaction to Chomsky’s (1965) notion of linguistic competence, a very abstract view of linguistic inquiry with emphasis on the rules of syntax (Stern, 1983). Competence, as defined by Chomsky (1965), reflects the linguistic knowledge of fluent speakers of a language, as opposed to the actual production and comprehension of speech by those same speakers, known as performance. This abstract concept of competence, which, by its nature, cannot be directly measured, might be referred to as a speaker’s linguistic capacity. Reinterpreting Chomsky’s terminology, sociolinguist Hymes (1972) took the concept a step further to include the intuitive awareness that native speakers have to use language appropriately. He coined the term communicative competence as the

knowledge “when to speak, when not, and as to what to talk about with whom, when, where, in what manner (p. 277). This concept has been widely accepted in language pedagogy in recent years and has led to further study and analysis of the phenomenon.

In 1980, Canale and Swain proposed three key components of communicative competence¹: grammatical competence, sociolinguistic competence, and strategic competence. In the past, traditional language teaching methods had tended to concentrate almost exclusively on the development of grammatical competence. By presenting a set of grammar and pronunciation rules to be learned, these approaches sought to enable learners to produce grammatically and phonologically accurate sentences in the language being studied. This in itself is not an undesirable goal. However, it ignores the fact that in the real world of communication, sentences are never uttered in isolation but are said within a particular context that dictates which forms are appropriate or inappropriate. The ability to determine what is appropriate in a given situation is known as sociolinguistic competence. The importance of such competence can be seen in the following examples:

- 1) Open the door!
- 2) Would you open the door?

Each of these sentences is grammatically correct, intended to get someone to do something. However, a mature native speaker of English would recognize at once that, while the first one might be perfectly acceptable to use with a younger sibling, it would not be appropriate if the addressee were a teacher or parent. At the same time, the second sentence, said in a sarcastic tone of voice, would convey a very different message than if it were

uttered in a normal tone. These differences are not inherent in the grammatical form or the vocabulary of the utterances.

Strategic competence, the third component of communicative competence, encompasses all the strategies speakers use to overcome problems when attempting to convey a message to a listener. When the L2 users' grammatical and sociocultural competence is limited, they can learn to make use of additional skills, such as paraphrasing, avoidance of difficulties, simplifications, and other coping techniques shown to facilitate effective communication. In any interaction, certain assumptions will be made about the participants' knowledge of the topic under discussion, their ability to respond to and request information, and the level of success that can be expected in the transmission of meaning between the interlocutors. In the L2 classroom, the teacher is typically the expert native speaker, and the students must adjust their speech only to the extent needed for the teacher to understand. Clearly, situations like this do not meet all of the students' communicative needs.

In an effort to provide communicative experiences which more closely match those outside the classroom, teachers often give students role-play, simulation and scenario activities to do in small groups, in pairs, or individually. Although these activities may be beneficial, they are primarily one-way transactions rather than two-way interactions, and strategic skills are seldom called into play. Interactive, information-exchange tasks, performed by students in pairs or small groups, have been shown to require more modified interaction in the form of communication strategies, which Long (1983b) calls comprehension checks, confirmation checks, and clarification requests, than teacher-fronted activities (Doughty & Pica, 1986). Moreover,

these types of activities do provide students with the comprehensible input (Krashen, 1985) which many researchers and theorists believe is important for, if not essential to, the acquisition of a language. In fact, recent research results indicate that optimum learning conditions for L2 learners must involve contexts where the L2 input is made comprehensible through interactive negotiation (Long, 1981, 1983b; Pica, 1987).

Communicative competence implies linguistic competence, but its primary focus is developing the intuitive understanding of social and cultural rules and meanings inherent in any utterance. That idea formed the basis for the pedagogical movement toward a communicative approach to L2 learning and teaching. Almost any current language methodology book contains at least one section devoted to communicative teaching methods, and many have that as their overriding theme. Savignon (1987) defines the concept of communicative competence as “the ability to negotiate meaning — to successfully combine a knowledge of linguistic, sociolinguistic, and discourse rules in communicative interactions” (p. 235). She advocates diverse strategies and techniques designed to involve learners in a dynamic and interactive process of communication, where the experience involves the whole learner — with affective and physical as well as cognitive components.

In Rivers’ and Temperley’s (1978) design of essential processes in language teaching a distinction is made between skill-getting and skill-using activities. Processes such as cognition, perception, abstraction, production, articulation, and construction come under the heading of skill-getting. In the skill-using category are found the processes of reception, expression, and motivation to communicate. The kinds of exercises she proposes must be given a situational context and a semantic content which are readily

transferable to interchanges between student and instructor or student and student. Although most of these activities consist of dialogues and monologues, sometimes called directed conversations, there is very little that is conversational in the exercises themselves. Therefore, although this design is called communicative, there may not be much true communication going on. It was soon recognized that there may be more than one way to implement a communicative approach.

The functional-notional approach

In recent years, materials have been developed that attempt to address the problems of the traditional grammar-based curricula and to implement a communicative curriculum. Rather than emphasizing grammatical rules and drills, these texts present functional categories, such as apologizing, greeting, making excuses, and making requests, along with grammatical elements needed to make up these expressions (e.g., Finocchiaro & Brumfit, 1983). This approach arose out of the work commissioned by the Council of Europe which was founded in 1949 to promote educational reform. The Council for Cultural Cooperation of the Council of Europe became interested in language teaching in the 1960s, and by 1971 a group of experts was set up to investigate the foreign language needs of adults. According to Finocchiaro and Brumfit (1983), the experts:

. . . explored in depth the language and cultural content which would enable these adults to communicate and interact with speakers of other languages either in a foreign country or in their native land. . . . The language and cultural content was designed to encompass situations and topics of immediate concern to them. (p. 11)

The functional-notional approach emphasizes the communicative purpose of a speech act. It focuses on what speakers want to do or what they want to accomplish through speech. For example, do they want to introduce people? Do they want to invite someone somewhere? Do they want to ask someone to do or not to do something? These are all examples of functions of language. The functions must also incorporate specific notions, which are meaning elements that may be expressed through nouns, pronouns, verbs, prepositions, conjunctions, adjectives, or adverbs. Clearly, there is still evidence of an underlying grammar system which can be seen in the categories of communicative functions from Wilkins (1976). Examples of these categories include, but are not limited to:

1. volition, i.e., the speaking intent with regard to a proposition: will, choose, (to) be inclined, want, prefer, etc.;
2. gratitude: to be thankful, to be grateful, thank, acknowledge;
3. information - asserted: tell, inform, assert; sought: request, question, ask;
4. suasion: persuade, suggest, advise, recommend, beg, urge. (pp. 14-23)

When these categories are transferred to the classroom in the form of class activities, students typically practice some of the expressions in role-play activities or written exercises until they become familiar with a number of functions and notions. The instructional materials presented by the teacher might consist of a prepared dialogue that students are asked to transpose to a formal or less formal style. Another example of an activity might be to prepare appropriate alternative utterances in a dialogue while maintaining the same functional and notional core (that is, the same purpose and topic). Again, these materials are designed to have students manipulate language in

a way that still focuses on the meaning and the message. Whether that is in fact what the students do is not clear. However, it is assumed, as mentioned earlier, that the materials teachers give to students in the classroom have a direct effect on how students practice language and on what they ultimately learn.

At first glance, these functional-notional materials seemed to be the answer for teachers who wished to make language teaching more communicative. However, they have begun to fall from favor in recent years as teachers have become dissatisfied with the results of such an approach. As was the case with the audio-lingual method, certain assumptions associated with the functional-notional approach may not be justified. For example, a student may be presented with a way to say May I borrow your pen? Even if that example is presented as a request to get permission to do something, there is no guarantee that students will somehow learn from practicing the example, that it is a request. Moreover, in request situations, students may not automatically produce a request with the appropriate lexical material in it or know how to respond to the request once it is made. More importantly, perhaps, students cannot know when it is appropriate to make a request and of whom it is appropriate to make certain requests, if they have not been taught that. The primary objection to the functional-notional approach is that, although it is possible to teach a number of ways of expressing a particular speech act such as requesting, there are no definitive rules to explain when one way is more appropriate than another. In fact, according to Tarone and Yule (1989):

When asked if some expression is appropriate or not, language teachers inevitably reply with some version of 'it depends on the context.' This

is an intuitive recognition that communicative function cannot be isolated from sociocultural context and, consequently, that functional values cannot be assigned to linguistic expressions in isolation. (p. 18)

Although it is the case that communicative approaches and functional-notional approaches continue to be implemented in the United States and through the Threshold materials in Europe (Van Ek, 1975), this is not an area I am going to investigate further in the current study. Further, it may be that some of the critical evaluation of the functional-notional syllabus is founded on the belief that most of what is happening in classrooms is not communication, if communication means one person having something to say to another person who needs to know it. The exercises within this approach are focused on language form, once again, except that the forms are speech acts instead of discrete linguistic features. Additionally, most of the materials are not set up in such a way that communication is the event that takes place in the learning situation. An alternative approach that seems to have gained in popularity within the last ten years is based on the idea of communication as an information exchange event. The early work in L1 and L2 in this area comes from people such as Brown and Yule (1983), Long (1981) and Brown, Anderson, Shillcock and Yule (1984) and will be covered in more detail in later chapters.

The learner-centered approach

The interest in interactive information-exchange tasks for groups of learners coincided with a general movement in education-at-large toward removing the teacher as the sole, dominant figure in organizing a classroom and toward more learner-centered education. Those involved in language learning, as in other forms of learning, began to think in terms of giving

learners more responsibility for the learning process. Research in L1 classroom environments found that, in teacher-fronted arrangements, the teachers tend to do most of the talking (about 60%), mostly as soliciting and reacting (see Bellack, et al., 1966; Dunkin & Biddle, 1974). Legaretta (1977) investigated five bilingual kindergarten classrooms and found students accounting for only 11% to 30% of the total talk. Reaction to this kind of information led many in the language teaching field to take a closer look at alternatives to conventional classroom arrangements and methods.

During the period of the early 1980s, an interest in the usefulness of pair work and group work in classrooms became more pronounced, with teachers delegating some of the control of classroom activities to group leaders and to pairs. This kind of cooperative learning has its correlates in other humanistic methodologies such as counseling learning, which was interpreted in L2 teaching as community language learning (Curran, 1976). The community language learning approach has learners arranged in a circle with the teacher outside the circle as a resource person, providing opportunities for students to experiment and make their own decisions about how to communicate in the target language.

During this same period there was a general consensus in language teaching that there existed a need for change and innovation in the classroom. Many of the people entering the field were being told that audiolingual methods were not effective, but were faced with large numbers of different methodologies. The Silent Way (Gattegno, 1972), Total Physical Response (Asher, 1969), Suggestopedia (Lozanov, 1978), The Natural Approach (Terrell, 1977), and Counseling Learning (Curran, 1976) were all presented as communicative methods for teaching language. Language teachers in teacher

training programs were being given the opportunity to make their own decisions about the approach they wished to use in the classroom. They were encouraged to be innovative in their teaching practices, the idea of the syllabus being fixed by grammatical structure was being undermined, and communication in the classroom was becoming an accepted concept. Around this same time, teachers found that there was one person in the field of SLA research who seemed to address the kinds of concerns that had plagued them for years, and who was proposing solutions to their problems. The name of Stephen Krashen is probably the most widely recognized among teachers in L2 instruction today. Some have called him the “high priest of the profession” (Nunan, 1988, p. 81) and credit him for putting SLA on the practitioner’s agenda.

One of the most widely known and, perhaps, widely criticized theories of SLA was posited by Krashen (1981) and Krashen and Terrell (1983). Krashen’s research, much of it performed in the 1970s, became immensely popular by the beginning of the 1980s. His theoretical model is based on five hypotheses which he cites as fundamentals in understanding the process of learning a second language, and which have, despite their shortcomings, made an impact on subsequent research and theory.

The Acquisition-Learning Hypothesis. The first hypothesis concerns the distinction between acquisition and learning as two distinct ways in which adults can develop competence in a L2. Krashen and Terrell (1983) describe the distinction in the following manner:

The first way is via language acquisition, that is, by using language for real communication. Language acquisition is the ‘natural’ way to develop linguistic ability, and is a subconscious process. . . . the second

way to develop competence in a second language is by language learning. Language learning is 'knowing about' language, or 'formal knowledge' of a language. While acquisition is subconscious, learning is conscious. Learning refers to 'explicit' knowledge of rules, being aware of them and being able to talk about them. This kind of knowledge is quite different from language acquisition, which could be termed 'implicit'. (p. 26)

Thus, following the Acquisition-Learning Hypothesis, second language acquisition should occur much as does L1 acquisition in children, subconsciously and naturally. In essence, acquisition is the "picking up" of language, usually in social or work-place contexts. Learning, on the other hand, is accomplished consciously, usually in a classroom or tutorial environment, by learning the rules of the language, that is, by increasing knowledge about the language. According to Krashen (1982), the two activities — acquisition and learning — are mutually exclusive and non-transferrable; therefore, what is learned cannot be acquired later.²

Research in child L1 acquisition has demonstrated that children acquire language without a great deal of explicit correction of formal (grammatical) mistakes, although they do receive correction when it is the meaning of their utterances that is unclear (Brown, 1973). Such evidence in these more clearly natural acquisition settings, where real communication is the key, helps support Krashen's claim for the acquisition-learning distinction. Krashen further employs the distinction to make rather bold claims about the efficacy (or lack thereof) of formal language instruction. If teaching involves formal explication of rules and explicit correction, in Krashen's thinking, it benefits learning only, and according to the first hypothesis, formal teaching can have

no effect on the acquisition process which depends heavily on subconscious and implicit knowledge. Understandably, the implications of such claims have had a tremendous effect on the attitude toward L2 classrooms and the efforts to make the L2 learning environment as “natural” as possible.

The Natural Order Hypothesis. Krashen’s second hypothesis states that grammatical morphemes are acquired in a natural order. Although this hypothesis does not claim that every learner will acquire every morpheme in a lock-step order, it assumes that groups of inflectional morphemes will be acquired before others. For example, the progressive -ing, plural -s, and copula to be will generally be acquired before the progressive auxiliary and the articles a and the.

Initial evidence for this hypothesis comes once again from child L1 acquisition studies (cf. Brown & Hanlon, 1970; deVilliers & deVilliers, 1973) which found that, both longitudinally and cross-sectionally, order of acquisition and order of difficulty are similar and follow the same general pattern for all children. Dulay and Burt (1974, 1975) reported that children acquiring English as a L2 also appear to show the same order of acquisition for inflectional morphemes and function words. Much of the order of acquisition research has been carried out using the Bilingual Syntax Measure (BSM), an elicitation instrument developed by Burt, Dulay, and Hernandez (1973). The BSM consists of a series of pictures which learners describe, producing sentences that the researchers consider to reflect natural speech. From this corpus, all the obligatory contexts (those instances where the use of a particular linguistic item is required in native speaker speech) for the grammatical morphemes are identified, and learners are scored according to whether they correctly supplied the item in question. Accuracy scores from

this count are ranked, and the resulting accuracy order is equated with acquisition order, because in this instrument a higher accurate-use score is interpreted as earlier acquisition of the item. Further research has found that the elicitation instrument itself has a very strong effect on the apparent order of acquisition. Larsen-Freeman (1976) discovered that when focusing on oral production, this ordering held, but that a different order emerged when the elicitation tasks involved listening, reading, and writing. Krashen (1985) attempts to explain these contradictory results with the Monitor Hypothesis.

The Monitor Hypothesis. "This hypothesis states that conscious learning has an extremely limited function in adult second language performance: it can only be used as a monitor, or an editor" (Krashen & Terrell, 1983, p. 30). Thus, one must assume that utterances produced in a L2 originate in the acquired system, and the learned system only plays a part at a later point in the production process: when learners have time to think about rules, when they are focusing on the form rather than the message of their utterances, and when they know the rule. Furthermore, conscious learning has only this corrective function and does not play a part in initiating L2 production. Results such as those found by Larsen-Freeman (1976) are countered by Krashen (1985) who claims that the differing acquisition orders were evident because the learners were making use of the Monitor, and hence were not reflecting the true state of the learner's acquisition system. Another application of this hypothesis indicates that learners can over-use the Monitor, especially when speaking, which will necessarily interfere with fluency. When their attention is focused on linguistic accuracy, and not communication, the amount of spoken language produced will be drastically reduced.

The Input Hypothesis. The fourth hypothesis states that language is acquired when learners understand input that is part of the next stage in the acquisition order. This kind of input functions in the acquisition process when “an acquirer can move from a stage i (where i is the acquirer’s current level of competence) to a stage $i + 1$ (where $i + 1$ is the stage immediately following i along some natural order) by understanding language containing $i + 1$ ” (Krashen & Terrell, 1983, p. 32). In essence, $i + 1$ is input to the learner that has been modified so that it may be understood. Within Krashen’s theory, $i + 1$ is also called comprehensible input, a concept that has been taken up and widely applied by SLA theorists.

Comprehensible input subsumes many input types, such as caretaker speech, motherese, foreigner talk, and teacher talk. It is important to note that these types are relevant to the Input Hypothesis in that they provide learners with input that is focused on communication rather than form and specifically targeted to be comprehensible to the particular interlocutor, that is, aimed at the $i + 1$.

The Affective Filter Hypothesis. The Affective Filter Hypothesis states that the attitudinal variables affecting L2 acquisition relate to language acquisition and not to language learning. Some of the positive attitudinal variables are positive self image, low anxiety levels and, often, integrative motivation.³ Learners with positive attitudes are believed to have what Krashen (1985) calls lower affective filters, making them more receptive to the input they get and encouraging them to interact with confidence to create situations where they can receive more input. Naiman, Frohlich, Stern & Todesco (1978) address these same variables at length in their description of ‘good language learners.’

Other SLA Theories

One of the more controversial issues raised by Krashen's (1985) theory is the distinction between acquisition and learning, or rather the exclusivity proposed for each of these processes and the unavailability of learning to permeate the acquired system. A number of studies attributed a greater role for interaction between the two language knowledge systems that Krashen proposed, and this interaction is based on automaticity. Stevick (1980) proposed that learning is related to secondary memory, where material is stored but can be difficult to retrieve if not used occasionally, and acquisition is related to tertiary memory, where material is stored permanently, whether used or not. Stevick argued that material in secondary memory, when used for communication, may be transferred to tertiary memory, hence learning may be transferred to acquisition.

Bialystok (1981) used the terms implicit (similar to acquired) and explicit (similar to learned) to refer to the two types of language knowledge. She cited evidence that knowledge can be represented immediately as implicit, or explicit knowledge can, with practice, become part of the implicit system. McLaughlin (1978) proposed that SLA involves moving from controlled to automatic processing of knowledge. His theory states that controlled processes require active attention and are associated with long term memory. They take time to develop, but once developed, they do not require attention.

In L2 learning . . . the initial stage will require moment-to-moment decisions, and controlled processes will be adopted and used to perform accurately, though slowly. As the situation becomes more familiar, always requiring the same sequence of processing operations,

automatic processes will develop, attention demands will be eased, and controlled operations can be carried out in parallel with automatic processes as performance improves. In other words, controlled processes lay down the 'stepping stones' for automatic processing as the learner moves to more and more difficult levels. (p. 319)

Practice, that is, enough use of the L2, thus leads to acquisition as a normal course of events, and a distinction between acquired and learned is not necessary. Rather, learned (controlled, explicit) processes become acquired (automatic, implicit) as a matter of course.

Sharwood-Smith (1981) sums up the psycholinguistic perspective which best serves to challenge Krashen's first hypothesis: "... most spontaneous performance is attained by dint of practice. In the course of actually performing in the target language, the learner gains the necessary control over its structures such that he or she can use them quickly without reflection" (p. 166). This perspective on the interaction between acquisition and learning validates the function of learned knowledge in the process of acquisition — knowledge that has been learned indeed does have an integral function in an acquisition capacity greater than the Monitor which Krashen proposes.

Some of the limitations of the Natural Order Hypothesis have already been mentioned, but it is worth noting that the natural order of morpheme acquisition upon which a large part of Krashen's allegations rests, refers to a very small part of the language system being acquired. It is this focus on inflectional morphology as one of the bases for his theory that forces one to examine the Input Hypothesis more closely. Chaudron (1985), for example, noted that in order to examine the SLA process, we must be able to identify

what constitutes i and $i + 1$. We must assume that, for Krashen the $+ 1$ represents another stage in the order of morpheme acquisition, that is, the acquisition of the next morpheme in line. White (1987) pointed out a number of drawbacks to the theory: a) It does not take into account the internally-driven aspect of language acquisition, the changes in the learner's grammar which can emerge as a result of the learner's current knowledge; b) The Input Hypothesis ignores the fact that input modified for comprehensibility is manipulated input, with potential implications such as those made for the input found in the language of instruction (e.g., how one avoids input modified to $i - 1$); and c) The indeterminacy of what input the learner needs can be identified with the application of a detailed theory of language.

Schumann (1983) asserted that Krashen and McLaughlin based their arguments on their personal language learning experiences and that, for a learner who had shared the kinds of experiences Krashen had in learning a L2, the Monitor Model captures the experience accurately. On the other hand, a learner believing his successful L2 experiences were the result of formal learning could be drawn toward McLaughlin's point of view. Schumann (1983) explained that:

Krashen and McLaughlin's views can coexist as two different paintings of the language learning experience — as reality symbolized in two different ways. Viewers can choose between the two on an aesthetic basis, favoring the painting which they find to be phenomenologically true to their experience. Neither position is correct; they are simply alternate representations of reality. (p. 55)

Interlanguage. A view of SLA which has received much attention is Selinker's (1972) interlanguage (IL) theory. It refers to the interim grammar that L2 learners construct in the process of arriving at the target language. He saw it as a separate linguistic system resulting from the attempt by the learner to produce the target language norm. According to McLaughlin (1987), Selinker's theory is the product of five cognitive processes of L2 learning:

- (1) Language transfer: some items, rules, and subsystems of the interlanguage may result from transfer from the first language.
- (2) Transfer of training: some elements of the interlanguage may result from specific features of a training process used to teach the second language.
- (3) Strategies of second language learning: some elements of the interlanguage may result from a specific approach to the material to be learned.
- (4) Strategies of second language communication: some elements of the interlanguage may result from specific ways people learn to communicate with native speakers of the target language.
- (5) Overgeneralization of the target language linguistic material: some elements of the interlanguage may be the product of overgeneralization of the rules and semantic features of the target language. (p. 61)

Some researchers in interlanguage theory have taken different perspectives in looking at linguistic, sociolinguistic, and psychological processes that underlie interlanguage development, and investigation continues under this rubric.

Another interesting, if controversial, line of research has emerged from Schumann's (1976) analogy between early second language acquisition and pidginization. He observed that adult L2 learners' language followed a pattern of development similar to that of pidgins, in the beginning stages of the adults' contact with the target language (TL). However, as the contact continued, their language began to approximate the TL, moving away from the characteristics of pidgins toward a more complex version, much like a creole, and finally, away from the creole to the source language. This theory assumes, among other things, that in the pidginization-creolization process the learner has a language that, in his external community, has a low prestige. This form is referred to as a basilect. In the same community, there exists a high prestige language, an acrolect to which the learner aspires. Between the two forms is a mid-range mesolect, which evolves as a result of the contact between the two other forms. SLA theorists have proposed that the process of L2 acquisition follows the same developmental stages. Substituting basolang (L1), mesolang (IL), and acrolang (TL) for the above-mentioned stages, the analogy seems to fit very nicely.

However, several problems must be considered. First, decreolization (toward the source language) is a long term process which takes generations to occur, and even ambitious longitudinal studies could not capture the whole process. Second, in decreolization the basilect tends to be lost once the acrolect is acquired. This process does not normally happen in SLA — most speakers retain their L1 even after acquiring the L2. Also, the description of the decreolization process appears to be linear, when in reality it is often regressive; that is, a mesolect speaker may regain elements of the basilect before progressing toward the acrolect. A major problem with the analogy is

that creolization generally operates on a single language system, with the stages appearing much like dialects (hence the suffix -lect), while in SLA each of the stages may represent a separate language system (i.e., -lang). Finally, as McLaughlin (1987) has noted:

the theory is addressed to naturalistic adult second language acquisition, where learners have more or less contact with the target language community. The model says nothing about classroom second language learning, where learners do not have contact with native speakers other than the teacher. (p. 132)

It is clear, even from the mention of these few theoretical perspectives, that SLA researchers cannot agree upon a single, unified framework for looking at the process of language acquisition. Researchers surely do not necessarily choose to disagree simply for the sake of argument, but rather, as Schumann (1976) notes above, their viewpoints derive from their own individual, personal language learning experiences. Therefore, it must be remembered that no single theory will be the ultimate key to the language learning process for all learners. Notwithstanding the controversy over competing models, White (1987) noted that "Krashen's emphasis on the input hypothesis has been useful in drawing our attention to the role of input, and to the degree to which acquisition is dependent on the learner" (p. 108). It is the recognition that some kinds of input have a role to play in SLA, and the ensuing recognition of the learner as an essential part of the acquisition mechanism that has provided a base for much of the recent research in SLA. Thus, although the details of Krashen's theory are challenged because they are not operationalizable, the concept of comprehensible input has proved to be viable and has gained status as a an

accepted concept in SLA research. The debate now is in what constitutes input, how (or if) it should be modified for learners, and how to provide it.

Comprehensible input and output

Wagner-Gough and Hatch (1975) were among the first to apply Hymes' (1972) call for language research incorporating the object of study within the communicative context. That is, while language learning, whether L1 or L2, had been studied as a product, with an eye to examining learner performance in terms of form, it was time to attempt to explain the process of language learning within the context of the notion of communicative competence. Studies began to look at how learner language works in actual communication situations. The call for research using complete conversational data has brought much of SLA research to where it is today.

Perhaps the strongest theory available to us now in SLA is based on the analysis of types of input available to learners both in native speaker (NS) - nonnative speaker (NNS) interactions and, more recently, in NNS-NNS interactions. Long (1981) emphasized the importance of modified input, and he pointed out that many of the formal modifications identified as modified input are not evidenced with regularity in many SLA studies, or, when they are, they are variable in their occurrence. Therefore, a question exists concerning which phenomena should be the focus of attention when examining the types and effects of input available to and used by learners. According to Long (1981), it is not only input to but also interaction with the learner that must be studied, and furthermore, that the distinction between interaction with and input to NNSs "is important both theoretically, in order better to understand the second language acquisition (SLA) process, and in

practice, when considering what is necessary and efficient in SL instruction” (p. 259).

Long (1981) further clarified the distinction as follows: “*Input* refers to the linguistic forms used; and by *interaction* is meant the functions served by those forms, such as expansion, repetition, and clarification” (p. 259). Thus, input refers to such elements of language use as lexical frequency, use of the copula, and length and number of T-units⁴, while interaction refers to distribution of sentence types (questions, statements, imperatives) and use of confirmation checks, comprehension checks, clarification requests, self- and other-repetitions, and expansions. Unless otherwise noted, the following definitions are taken from Long (1983b) and are defined in the context of NS-NNS conversational exchanges.

Confirmation checks are conversational devices which one speaker uses “immediately following an utterance by the interlocutor which are designed to elicit confirmation that the utterance has been correctly heard or understood” (Long, 1983b, p. 136). In the following exchange, a book? constitutes a confirmation check:

NNS:	I went to the mall and bought a book
NS:	a book?
NNS:	yeah

Expressions such as okay? and do you understand? are considered to be comprehension checks. They are used by the NS to ensure that the NNS is following the conversation, and they show an effort to try to maintain communication.

Clarification requests can be any expression uttered by the NS to show that he or she may not have understood what the NNS said. These are usually questions such as what?, excuse me?, and could you repeat that?, but may also appear as statements such as I don't understand, or say that again please. Although their form is variable, clarification requests function to let the NNS know that something he or she has said has not been understood.

Schachter (1986) referred to the interactive modifications as metalinguistic input to the learner, providing the learner with the information that "her utterance was in some way insufficient, deviant, unacceptable, or not understandable to the native speaker" (p. 215). Clearly, the functions of these interactional modifications are not limited to speech involving NNS interlocutors, but that perspective has been the focus of L2 research.

Self- and other-repetitions differ in kind only in who makes them. "They include partial or complete, and exact or semantic repetition (i.e., paraphrase) of any of the speaker's utterances which occurred within five conversational turns (of both speakers) of the turn containing the repetition" (Long, 1983b, p. 137). The following example illustrates the use of each of the types of conversational adjustments discussed above.

NS:	I'd like to ask you some questions about your education.	
NNS:	My. . . ?	[clarification request]
NS:	Your education.	[self-repetition]
NNS:	Oh.	
NS:	Do you understand?	[comprehension check]
NNS:	Yes, okay.	

- NS: Where did you get your degree?
- NNS: What? [clarification request]
- NS: Where did you get your degree? [self-repetition]
- NNS: Large university in India.
- NS: In India? [confirmation check]
- NNS: Yes.

Having established this framework for analyzing NS-NNS interactions, Long (1981) collected performance data of sixteen NS-NS dyads and sixteen NS-NNS dyads on six spoken English tasks. The tasks were: (a) informal conversation, (b) vicarious narrative, (c) giving instructions for two communication games, (d) playing the first game, e) playing the second game, and (f) discussing the perceived purpose of the research. Analysis of the data revealed that the differences between the NS-NS conversations and those of the NS-NNS pairs were in the domain of modified interaction rather than modified input. Because “interaction features are more sensitive to the communication demands of a conversation” (p. 268) [they] “prompt consideration of whether modified input, modified interaction, or a combination is necessary for or facilitates SLA” (p. 270). Based on his analysis, Long made the following assertions:

- (a) SLA is possible with unmodified input but with modified interaction;
 - (b) modified interaction with unmodified input facilitates SLA;
 - (c) SLA is possible with modified input and and modified interaction;
 - (d) modified input and modified interaction together facilitate SLA.
- (pp. 273-274)

These conclusions, while not rejecting the beneficial effects of modified input, have fostered the current focus on modified interaction and have provided the analytical framework forming the basis for much research carried out in the past decade.

Long (1981) further suggested that input becomes comprehensible to learners through modified interactions, where NSs questioning NNSs results in the joint negotiation of meaning by the interlocutors, and also serves to draw the NNSs into the conversation, providing them with continued opportunities for negotiation. Thus, the comprehensible input necessary for acquisition is provided when NNSs are required to negotiate for meaning in the L2, and evidence of the amount of negotiation is the presence or absence of the conversational adjustments described in detail earlier. Although Long admitted that input and interaction are often related, he maintained that modification in one is possible without modification in the other, though this seems to occur infrequently. He concluded that it is modified interaction that facilitates second language acquisition.

In a later paper, Long (1985) maintained that access to comprehensible input is a characteristic of all cases of successful (first or second) language acquisition, and greater quantities of comprehensible input seem to result in better (or at least faster) acquisition. Although a causal relationship between comprehensible input and L2 acquisition has yet to be proven, it is generally accepted that comprehensible input is necessary, though perhaps not sufficient, for successful language learning. Long went further to say that language learning tasks promote the kind of comprehensible input beneficial for language learning and therefore deserve attention when addressing issues of curriculum and syllabus design.

Although the fact that comprehensible input plays a role in SLA is generally not controversial, it has been suggested by Swain (1985) that comprehensible output plays a separate but equal role. She asserted that the role of comprehensible input and the emphasis on interactions promoting the negotiation of meaning have been overstated and that it is the comprehensible output of learners that provides them with opportunities to use their own linguistic resources in a meaningful way, to test their own hypotheses about the target language, and to move "... from a purely semantic analysis of the language to a syntactic one" (p. 252). It is helpful to keep in mind that a focus on interactional modification must necessarily involve both conversational participants and the contributions they make within an interaction. In such a situation, learners have opportunities to benefit both from the input of their partners and to develop their output in strategically diverse conditions which are communicative.

Several important features characterize the aforementioned studies, and one essential element is missing from all of them. They are related in that they look at what the NSs say to NNSs, what NNSs say to other NNSs, and how conversations are initiated and adjusted. It is in this period that interactive, information-exchange tasks are used for research purposes — tasks which may have a wide range of uses outside the realm of empirical studies. What is missing from these studies is a consideration of exactly how learners use the information which is made available to them. Valuable data about learners' input and output have been documented, quantified, and considered to be beneficial to acquisition, but that data tell only half the story.

As Corder (1967, 1981) noted over twenty years ago:

The simple fact of presenting a certain linguistic form to a learner in the classroom does not necessarily qualify it for the status of input, for the reason that input is 'what goes in' not what is available for going in, and we may reasonably suppose that it is the learner who controls this input, or more properly, his intake. (p. 9)

The distinction between input and intake has largely been ignored in many of the earlier studies. It was assumed that the intended message of the native speaker was always accurately interpreted by the NNS listener. That may not be the case. Listeners are typically selective about what information they take in during an interaction and how they process that information. In an attempt to facilitate understanding, native speakers in conversation with non-native speakers often modify their speech in certain definable ways. This phenomenon has become the focus of study in the field of L2 teaching and learning, and as it relates to SLA theory.

Simplified registers and foreigner talk

In some of the early investigations of the kind of input available to language learners, Ferguson (1964, 1971) examined what has come to be referred to as simplified registers in child L1 acquisition and with respect to NNS of English (Ferguson, 1975). He noted that:

. . . many, perhaps all, speech communities have registers of a special kind for use with people who are regarded for one reason or another as unable to readily understand the normal speech of the community (e.g., babies, foreigners, deaf people). These forms of speech are generally felt by their users to be simplified versions of the language,

hence easier to understand, and they are often regarded as imitation of the way the person addressed uses the language himself. (p. 143)

The study of child L1 acquisition is not at issue here, but those same simplified features which have been associated with what has been variously labeled "baby talk," "motherese," and "caretaker talk" (Newport, 1976; Snow & Ferguson, 1977; Weeks, 1971) also are found in "foreigner talk," that is, speech aimed at NNSs.

Linguistic features specific to foreigner talk (FT), in contrast to standard English, include adjustments to phonology, lexis, morphology, and syntax. Phonologically, FT is characterized as slower, louder, and more clearly enunciated, including more use of pauses and more emphatic stress and intonation. In extreme cases, there is some evidence of vowel insertion after final consonants, producing forms like talkie, workee, and slippa outa. Lexical modifications include frequent substitutions, that is, savvy for understand, next day for tomorrow, bang-bang for gun; the use of such synonyms as take or have instead of carry; and syntactic paraphrases such as which place for where or same as for like.

Grammatical features of FT include omissions, expansions, and replacements or rearrangements. Items often omitted include the definite article the, the verb to be, conjunctions, inflectional suffixes and stem changes signalling case, person, tense, and number, resulting in examples like no see for haven't seen. Expansions are most frequently evidenced with insertion of the pronoun you in imperative statements and with the use of tag questions. There is a tendency to replace all negative constructions with no and to use the accusative form of personal pronouns, resulting in utterances such as me no want, and him no have. The same kind of analytic paraphrasing exhibited

with lexical modifications is found with the possessives in FT, with my brother or your sister replaced by brother me and sister you. The data also show a FT preference to rely on phonology in questions, replacing inverted question forms with rising intonation alone.

Ferguson's (1975) research was carried out on a very small and informal scale, with a data base that consisted of over forty NSs demonstrating how they might talk to a NNS of English, and written evidence of FT in literature. Nevertheless, further studies (Meisel, 1977; Snow, Van Eeden, & Muysken, 1981) have confirmed the results in studies of spontaneous NS-NNS interactions in natural settings such as in stores, at work, with children playing, and at government offices. Considering the evidence of FT in both natural and experimental settings, it seems safe to assume that the speech of L2 teachers, who often experience daily intensive contact with NNSs would demonstrate certain of the features of FT.

Teacher Talk (TT) studies investigating the same kinds of phenomena as are found in FT have discovered that teachers used simpler syntax when talking to their students and employed interactional adjustments such as repetition, expansions, and prompting, similar to those found in caretaker talk (Gaies, 1977, 1979). Henzl (1979) looked at TT as a function of the proficiency level of students and found that teachers made phonological adjustments, especially with low-level students, and they frequently employed lexical substitution and adjusted the mean length of their utterances when speaking to all members of their classes. As might be expected, there is little evidence for ungrammatical speech modifications, perhaps because the interactive situations permitting ungrammaticality are not often present in a language classroom. It might be predicted that when

classroom focus is on unstructured interaction, or on conversation, evidence for more of the ungrammatical speech may be present.

After identifying the linguistic characteristics of modified input, researchers have expanded and refined their perceptions of the functions, forms, and limitations of such input to learners. Most notably, they have come to recognize that the way in which input is modified for learners has a powerful effect on their learning outcomes. This effect has formed part of the focus of studies which examine the many factors which influence language learning in the classroom.

The Role of Instruction in SLA

A separate but increasingly popular perspective toward SLA theory is a consideration of the role of formal instruction in the SLA process. The tendency among practitioners is to claim that instruction can provide learners with the focus they need to practice, hence automatize, and thereby acquire the language. However, up to now, few empirical studies have provided strong evidence that instruction is more beneficial than simple exposure to the second language. Long (1983a) compared a number of studies which investigated the relative efficacy of instruction alone and exposure alone, and combinations of the two. He concluded that instruction in conscious rule learning does result in successful L2 communicative competence for many learners, though in some cases the L2 classroom may provide the only exposure a learner has to the L2, and so it is difficult to discover where the benefit actually lies. Moreover, there is no solid proof that instruction alone is beneficial to SLA or that mere exposure alone is better. The studies he examined did provide evidence of a positive role for instruction for both child and adult SLA and for a variety of target languages. This is especially

interesting in light of the claim Krashen makes about the limited usefulness of instruction to L1 acquisition in children. Furthermore, the research demonstrated improved performance on the kinds of tests that Krashen suggested should be used to tap acquisition, as well as on the discrete-point tests that tap learned knowledge. Thus, if instruction positively affects scores on acquisition-focused evaluation instruments, it can be assumed that instruction affects the acquisition knowledge system. Long (1983a) concluded:

Put rather crudely, instruction is good for you, regardless of your proficiency level, of the wider linguistic environment in which you receive it, and of the type of test you are going to perform on.

Instruction appears to be especially useful in the early stages of SLA and/or in acquisition-poor environments, but neither of these conditions is necessary for its effects to show up. Further, there is some slight evidence that larger proportions of instruction are helpful in cases of instruction *and* exposure, but the evidence is only slight.

(pp. 379-380)

Pica (1987) attempted to account for earlier findings regarding the relative absence, in the discourse of classrooms, of the types of interactional moves (or conversational adjustments) deemed to be beneficial (and by some, necessary) for SLA. In most language classrooms, the teacher is perceived as both the language expert and the evaluator. The activities within the classroom are structured so that students can display their knowledge and skill but are at times constrained by the teacher's elicitations and directives. Even though the classroom is designed, at least in principle, to enhance the language learning process, it frequently falls short of that goal by virtue of the fact that learners have little opportunity to engage in meaningful interaction

with users of the L2. This is probably not surprising if the teacher-student roles and status relationships inherent in the traditional classroom environment are considered. Furthermore, typical classroom discourse is not oriented toward a two-way flow of information but rather a one-way display from student to teacher. It is rarely the case that a teacher is in need of information that only a student can provide. In fact, as any L2 student can attest, teachers ask questions to which they already know the answers. Of course, there are many practical reasons why classrooms are set up the way they are. As Pica (1987) pointed out:

The interactional structure of classroom discourse enables the teacher to hear from as many students as possible. If the teacher were to take time with each student for individual negotiations aimed at mutual comprehension of message meaning, the result would be that very few topics could be covered, and not all students could take turns at displaying their knowledge. At the same time, however, it serves to sustain rather than modify the interactional structure of teacher elicitation, student response, and teacher follow-up. (p. 11)

Besides the structure of the classroom, there are few features inherent in the classroom activities which provide opportunities for students to modify and restructure their interaction toward mutual comprehension. In fact, many activities actually offer participants opportunities to avoid interaction. For example, when faced with ambiguous target language materials, some students may be willing to suspend comprehension completely rather than disrupt the flow of the classroom discourse to ask for clarification. This is especially true if the student feels that an appeal for assistance is a sign of incompetence. In addition, mutual comprehension is

often built into classroom discourse, so there is very little need to restructure interaction to achieve it. Often, the teacher is familiar enough with students' language forms to figure out what the students are saying. Finally, it might be the case that attempts to achieve comprehension may be misinterpreted as challenges to the teacher. Given the unequal status relationships of teacher and student, students may feel that a clarification request or confirmation or comprehension check will be perceived as challenges to the professional experience or knowledge of the teacher.

The Pica (1987) study found that confirmation and comprehension checks and clarification requests accounted for only 11% of the total utterances during a decision-making activity and 15% of productions during an information exchange. Often, the reason for the existence of such a situation is that "classroom instruction has been organized around what is pedagogically attractive, more often than around what facilitates language development" (p. 17). The author concluded that if the classroom is to assist the learner's language development, there should be activities whose outcome depends on information exchange and which emphasize collaboration among classroom participants. One way to promote that kind of exchange is to arrange students in groups or pairs, with the teacher as an outside resource, and to design materials that will ensure that participants are doing what is intended for them to do, namely, to communicate.

Chaudron (1988) pointed out that the role of interactive features of classroom behaviors has been given greater importance in recent years. In his view, interaction is:

... significant because it is argued that 1) only through interaction can the learner decompose the TL structures and derive meaning from

classroom events, 2) interaction gives learners the opportunities to incorporate TL structures into their own speech, and 3) the meaningfulness for learners of classroom events of any kind, whether thought of as interactive or not, will depend on the extent to which communication has been jointly constructed between the teacher and learners. (p. 10)

Some researchers have approached the question of instruction from the standpoint of universal sequences of development and have sought to discover if classroom instruction can alter this 'natural' sequence of acquisition of certain structures. Pienemann (1984) states that "aspects of language which appear to have universal patterns of development can be *taught* most successfully if they are presented in a sequence which respects the 'natural sequences' observed in the L2 acquisition of learners who do not receive formal instruction" (p. 187). Lightbown's (1985) findings indicate that when learners practiced certain language forms from thirty to sixty minutes per day, they were able to get them right in class and for a short period of time outside of class. "Later, however, some of these 'correct' forms disappeared from the learners' language and were replaced by simpler or developmentally 'earlier' forms" (Lightbown, 1985, p. 102).

Given the wide variation in classroom practices, materials, and students, it is not surprising that definitive evidence for the benefits of any one kind of instruction has not been forthcoming. However, future research in this area will surely yield valuable insights towards a better understanding of classroom L2 learning as a whole.

Summary

At least one element is missing from the research described in the preceding pages; that is, a consideration of what effect particular task types, learner characteristics and learner arrangements might have on any communicative event, and what impact that might have on future language learning and development.

Researchers should look beyond the input/output, instruction-exposure issues to try to discover how the learner makes use of all the information available as input. Moreover, if the concern is with developing the communicative effectiveness of the learner, then evaluation of the learner must take place within communicative exercises in the L2, using materials that will accurately reflect the communication skills of the learner.

In summary, the communicative approach to language learning, with a focus on interactive processes, had become a teaching and research concept in widespread use in the field of second language teaching and learning by the mid-1980s. Many of the assumptions of this approach, however, were stated, not investigated or tested. It became clear, in the latter half of the 1980s, that many of the ideas involved in learner-centered, task-based, communicative language teaching, assumed to be beneficial, were being recognized as more or less beneficial than others, and some conditions could be non-beneficial. It is to the more recent research in that area that I now turn.

Footnotes

1 A fourth component, discourse competence, was added by the authors in 1984 and expanded upon by others. However, many researchers continue to find that the three original components are sufficient to account for the language phenomena typically found in the course of empirical investigations.

2 Although this may seem fairly straightforward and logical, it is not so clear whether features of language that have been acquired can then later be added to by means of knowledge. Intuitively, it would seem to be a viable alternative, though there is no evidence to support this view. Krashen addressed this issue briefly when he explained the function of the Monitor.

3 Integrative motivation refers to the desire of the learner to fit into the culture of the L2, to be like speakers of the L2. This is often the case when learners are involved in L2 learning because they want to communicate in the language. Another kind of motivation, called instrumental motivation, refers to the desire or need on the part of the learner to learn the L2 for very practical purposes such as employment or entrance into school. Although the two are not mutually exclusive, neither are they mutually dependent. (See Gardner & Lambert, 1972.)

4 A T-unit is defined as a main clause and all the subordinate clauses and nonclausal structures attached to or embedded in it.

CHAPTER TWO

Investigating Task-based Language Learning

In 1985 and 1986, two extremely influential collections of papers were published, the vast majority of which dealt with research related to communicative spoken second language teaching. These two publications were Input in Second Language Acquisition (Gass & Madden, 1985) and Talking to Learn (Day, 1986). In this chapter, I will examine in greater detail the research represented in those two volumes, as well as related work of about the same period and through the present time, that is dedicated to evaluating different kinds of classroom arrangements, learner arrangements, and task types. First, however, I will lay some groundwork in the area of tasks, task types, and task-based learning in general.

Many of the studies cited in Chapter One included the use of communication-type tasks to study the language of L2 learners in different combinations and arrangements. This use of tasks marked a departure from other types of elicitation tasks which had been designed to focus on particular linguistic forms within utterances. The primary differences between these two task types are the intended purpose and the level at which the analysis takes place. The former was designed to analyze discourse, while the latter looked at language forms. Continuing with the trend toward investigating the communicative aspects of spoken language, task-based materials designed to simulate “natural” communication have been proposed for use in the language classroom.

The idea of task-based learning is not new to the field of education. However, it has only been within the last decade that the use of tasks to foster

L2 learning has gained attention. During this period, the field of language teaching began to approach task-based learning as the primary organizing concept of curricula, rather than simply as an addition to an already existing syllabus.

Materials Development

Nunan (1989) defined a communicative task as “ a piece of classroom work which involves learners in comprehending, manipulating, producing or interacting in the target language while their attention is principally focused on meaning rather than form” (p. 10). He stated further that “tasks are analyzed or categorized according to their goals, input data, activities, settings and roles” (p. 11). Designing and evaluating tasks for the classroom requires careful consideration of the objectives of the classroom, abilities and needs of the students, methods of implementing and assessing performance on the task, and sequencing and integrating with other tasks.

Also in the area of materials development, Kumaravadivelu (1989) classified language teaching approaches into three broad categories which dictate what types of tasks are appropriate. The first category, which he called the language-centered approach, is concerned with the forms of the language. Teachers provide practice with exercises such as pattern drills (as in the audio-lingual approach), where students learn to substitute a particular linguistic form appropriate to the structure and meaning of the sentence. It is generally believed that what is learned through this form-focused activity will be transferred to communication tasks in the target language outside the classroom. The second, learner-centered approach, is primarily concerned with the needs of the learner. Typically, students are provided with pre-selected, sequenced communication-focused activities of notions and

functions to learn, so that if they encounter a situation similar to ones simulated in the classroom, they will be able to transfer their knowledge. The third approach is learning-centered, in which students are provided with opportunities to participate in open-ended exercises in which the primary purpose is the exchange of information. Lafayette and Buscaglia (1985) showed that students will learn aspects of a language even when the language is used only as the medium of instruction in a content area, with no emphasis on the language itself. According to Kumaravadivelu (1989), "the first approach believes primarily in teaching language *for* communication, the second, in teaching language *as* communication, and the third, in teaching language *through* communication" (p. 10). Once the language teaching approach is identified, it becomes easier to determine what kinds of tasks are appropriate, taking into account the theoretical principles and pedagogical techniques inherent in the approach.

In the L2 classroom, the teacher is typically the expert native speaker, and the students must adjust their speech only to the extent needed for the teacher to understand. Unfortunately, these situations do not meet all the students' communicative needs. In an effort to provide communicative experiences which more closely match those outside the classroom, students have often been given role-play, simulation and scenario activities to do in small groups, pairs, or individually. Although these activities do help, they are primarily transactional rather than interactive, and strategic skills are seldom called into play. Interactive, information exchange tasks have been shown to require more modified interaction in the form of communication strategies such as comprehension and confirmation checks and clarification requests on the part of the interlocutors than teacher-fronted activities

(Doughty & Pica, 1986). Moreover, these types of activities do provide students with the comprehensible input (Krashen, 1985) which many researchers and theorists believe is important, if not essential, to the acquisition of a language. In fact, according to recent research findings, the optimum learning conditions for L2 learners should involve contexts where the L2 input is made comprehensible through interactive negotiation (Long, 1981; Pica, 1987).

Learner Arrangements and Characteristics

Some studies have found that different participant characteristics and arrangements within tasks also lead to different amounts and kinds of L2 interaction. In a study of comprehensibility of nonnative speech, Gass and Varonis (1984) had NSs listen to tape-recorded readings of a story and related and unrelated sentences by two Japanese and two Arabic speakers. They found that familiarity with topic, with interlocutor, and with other non-native speakers (NNS) increases the comprehensibility of discourse for NSs interacting with NNSs. Because the comprehensibility of nonnative speech contributes to the degree of speech modification by the native speaker, and that modification may allow for greater negotiation of meaning, NS-NNS speech continues to be an important area of investigation. Whether the reading of a text can be considered representative of natural speech is a topic that was not addressed in this study.

By focusing on interactions between NNSs, Varonis and Gass (1985) established that greater negotiation of meaning occurs in NNS/NNS pairs than in pairs of NSs or NS/NNS pairs. They postulate that the need for more negotiation is a result of the lack of shared background between NNS pairs. Even though a shared knowledge base may not exist between NS and NNS

pairs, the perceived or actual inequality of status with regard to the language used discourages negotiation.

Related to the benefit of certain kinds of speaker arrangements, Porter (1986) found that pairing NNS and NNS resulted in the production of more of the conversational adjustments Long (1983a) and others claimed to be beneficial to SLA. She concluded that, for communication practice, the richest learning environment would be that in which a NNS talks to another NNS. While this is good news for ESL teachers whose NNS students often have only each other with whom to practice the L2, one might be rather cautious about wholesale acceptance of these results. First, all of the subjects in this study were native Spanish speakers (a condition which is seldom part of typical heterogeneous ESL classrooms), making it highly unlikely that comprehensibility would be a problem, or that numerous conversation adjustments would be needed. Moreover, it has been shown that Spanish L1 speakers function very differently in the L2 on particular tasks than do Chinese or Vietnamese L1 speakers (Yule, Wetzell, & Kennedy, 1991). Also, if NNS pairings were the most beneficial to the acquisition of a L2, then it should be the case that English as a foreign language (EFL) students in, say, Japan, would acquire the L2 more quickly, more easily, and more completely, given that their conversational partners and language teachers would most often be other Japanese NNSs of English. That is not the case. Rather, what can happen in the kinds of pairings that Porter views as beneficial to SLA is the reinforcing of errors, grammatical, phonological, sociolinguistic and otherwise, not the modification of speech to a more target-like form. Therefore, having only another NNS with the same L1 as interlocutor may

not be the optimum condition for acquiring certain features of the target language.

Focusing attention on group work and SLA, Long and Porter (1985) presented five pedagogical arguments in favor of using groups in the L2 classroom. Although these arguments are intuitively attractive, not all of them are supported by empirical evidence. Since their paper was published, attempts have been made by some researchers to test some of the assumptions. I present the arguments here as a description of beliefs still commonly held by many in the field of L2 teaching.

Argument 1: Group work increases language practice opportunities.

Argument 2: Group work improves the quality of student talk.

Argument 3: Group work helps individualize instruction.

Argument 4: Group work promotes a positive affective climate.

Argument 5: Group work motivates learners.

Many of the studies during this period focused their analysis on the negotiation of meaning by NNSs and NSs in different arrangements while performing different tasks. A different perspective was taken by Rulon and McCreary (1986) when they investigated the negotiation of both meaning and content in teacher-fronted and small group interactions. Subjects were asked to perform a task generated within the context of a lesson, either in a teacher-fronted class or in small groups. All subjects viewed a video-taped lecture on the American Revolution, after having been given a pre-listening exercise. Three randomly selected subjects then left the room to complete, as a group, an outline of the advantages and disadvantages of the American Revolution. The remaining students completed the same outline during a teacher-led discussion. Seven hypotheses were proposed and tested, and the most

interesting results are found in response to Hypotheses five through seven which are concerned with the negotiation of content rather than the negotiation of meaning. Those hypotheses and the respective results are indicated below:

Hypothesis 5: Content confirmation checks occur more frequently in small-group situations than in teacher-fronted classes. Result: The data support the hypothesis.

Hypothesis 6: Content clarification requests occur more frequently in small-group situations than in teacher-fronted classes. Result: The data support the hypothesis.

Hypothesis 7: The coverage of the informational content supplied in the lecture by the subjects in the small groups is quantitatively equivalent to the coverage of informational content covered by subjects in the teacher-fronted classes. Result: The data support the hypothesis. Both groups covered the same number of topics.

Perhaps the most surprising finding of this study is data in support of Hypothesis seven. This finding implies that students working in small groups, without the teacher present, are able to cover the same amount of content information as students in classes where the teacher has the role of facilitator. Furthermore, when students are placed in groups to perform a contextualized task, considerably more negotiation of content occurs than when the teacher leads the discussion. Although this study has obvious limitations, it does lay the groundwork for future investigation into this area.

Continuing the consideration of the benefits of group work, a study by Pica and Doughty (1985a) examined the role of group work in the classroom as it relates to SLA. They analyzed grammaticality of input, negotiation of

input, and individual input and production. A comparison of teacher-fronted and group interactions revealed that there was significantly more grammatical input during the teacher-fronted activity (mostly from the teachers), but the target language production of the students in the teacher-fronted activity was no more grammatical than that of the students in the group activity. Contrary to predictions, there was a greater proportion of conversational adjustments in the teacher-fronted class, but more completions and corrections by students in the groups. The third area of investigation, amount of input/production by individual students, found that more turns were taken, more input was directed toward an individual, and a greater quantity of language was produced by those students who participated in the group activities. A surprisingly small number of conversational adjustments were used by students in the group interaction. Although this finding was unexpected in light of other studies which have touted the pedagogical effectiveness of group work, it may have been due in part to the tasks which the students performed. The decision-making task used in the experiment, although potentially interactive, did not compel students to negotiate for message meaning. According to the authors: "Neither a teacher-fronted nor groups format can have an impact on negotiation as long as these tasks provide little motivation for classroom participants to access each other's views" (p. 246). On a more positive note, the study did show that group work provides many more opportunities to practice the target language and to engage in interaction.

Another study by Pica and Doughty (1985b) compared the performance of learners in teacher-fronted (TF) classes and in small groups (SG) during decision-making and values clarification activities. Based on their prediction

that there would be differences in both the input and the interactional features in each of the two activities, they formulated nine hypotheses which are summarized below:

Hypothesis 1: The input in the teacher-fronted activity would be more grammatical than that in the group activity;

Hypothesis 2: Target language productions of learners in a teacher-fronted activity would be more grammatical than that of learners in the small groups;

Hypothesis 3: More conversational adjustments (clarification requests, comprehension checks, confirmation checks) would occur in small groups than in the teacher-fronted class;

Hypothesis 4: More other repetitions would occur in the teacher-fronted than in the group activity;

Hypothesis 5: More self-repetitions would occur in the teacher-fronted than in the group activity;

Hypothesis 6: More corrections and completions would occur in the teacher-fronted activity;

Hypothesis 7: More turns would be taken by individual learners in the groups;

Hypothesis 8: More input would be directed toward an individual learner in the groups than in the teacher-fronted activity;

Hypothesis 9: A larger quantity of language would be produced by individual learners in the group than in teacher-fronted activity.

Some of the results of their investigation were unexpected, considering past assumptions about how learners perform in group versus whole class activities. Hypothesis 1 was supported by the data, confirming the

assumption that total input in a TF activity tends to be more grammatical than total input in the SG (considering that teachers do much of the talking in TF arrangements). However, the difference in grammaticality of the target language produced by learners in the TF and by those in SG was not significant. Moreover, there was a significant difference in the amount of conversational adjustments between the TF and SG activity, but it was in the opposite direction from that predicted. That same pattern was apparent with regard to completions and corrections; that is, more of each occurred in the group activity than in the TF activity. All of the other hypotheses were borne out by the data, but there was a great deal of variation among groups. The researchers found that, during decision-making exercises, students in a teacher-fronted arrangement produced slightly more conversational adjustments than students in groups without the teacher, though very little modification occurred in either situation. This result ran counter to what had been proposed by many teachers and researchers earlier and was believed to have been influenced by the task itself and by the arrangement of the students and teachers performing the task. First, it was concluded that the task, though communicative in emphasis, did not require an exchange of information between participants. Moreover, due perhaps to the group format, some of the more proficient students monopolized the conversations, using language that was so far above the level of the other students that it was not questioned. This was not very different from what occurred in the teacher-fronted groups, where the teacher was either incomprehensible to the students or was operating at their same level, so there was no need for modification.

It was probably the case that a combination of factors affected the outcome of the study, but the researchers concluded that the most important factor was that the SG task did not require an exchange of information and therefore contributed to the small number of confirmation and comprehension checks and clarification requests, all believed by some to be vital to SLA. In spite of the rather inauspicious findings of this study, the data in support of Hypothesis 2 provide evidence for the positive outcome of giving students more responsibility for their own learning, without the fear that everything they say and hear will only serve to reinforce the dreaded ungrammatical speech associated with unsuccessful language learners. It appears that, even when students are in groups with no teacher present, they are able to produce target language speech that is no less accurate than what they produce when a teacher is present and in charge. This evidence supports the earlier findings by Porter (1986) that NNS-NNS pairings can be beneficial to L2 acquisition, at least in situations where learners have been given specific tasks to perform with other learners who have different native languages.

Learner Differences and Task Types

One of the notable features of the movement toward task-based language learning has been the amount of research on the relationship between different task types and the linguistic performance of learners participating in the tasks. Earlier findings (Pica & Doughty, 1985b) led to a study by Doughty and Pica (1986) which attempted to extend the investigation of earlier works by using a different kind of task (required information exchange) and introducing a new student arrangement (pairs) to the research design. The task required participants to share information about the layout of a felt board flower garden so that they could plant their individual flowers

in accordance with a master plot which no one could see in the beginning.

The researchers found that when an exchange of information was required, total production of the target language by the participants increased. Moreover, having students work in groups and pairs, rather than in teacher-fronted arrangements, tended to facilitate an increase in modified interaction, which, by making input comprehensible to the learners, leads to successful classroom SLA. Surprisingly, however, there was no difference in the amount of conversational adjustments between the small groups and the paired participants. The researchers concluded that "While a required information exchange task will compel students to talk more in either a teacher-fronted or a group situation, this increase in total production will result in an increase of *modified* interaction only when students are working in groups" (p. 321).

Looking more closely at groups of interactants, Varonis and Gass (1985) compared discourse of NNS-NNS, NS-NNS, and NS-NS pairs, and developed a model of negotiation of meaning, which consists of four functional primes:

1. a trigger (T), which stimulates or invokes incomplete understanding on the part of the hearer;
2. an indicator (I), which is the hearer's signal that understanding has not been complete;
3. a response (R), which is the original speaker's attempt to clear up the unaccepted input (often referred to as a repair);
4. a reaction to the response (RR), an optional element that signals either the hearer's acceptance or continued difficulty with the speaker's repair.

The following example illustrates all of the preceding elements:

NNS1: My father now is retire - T
 NNS2: retire? - I
 NNS1: yes - R
 NNS2: oh yeah - RR (Gass & Varonis, 1985, p. 151)

The study found that there were more incidents of non-understanding among the NNS-NNS dyads than in either of the other two. Additionally, they reported that:

NNS-NNS pairs not only spend more time negotiating than the other pairs, but also that their non-understandings involve more work in the resolution . . . , and the conversation continues. Thus, the more involved non-native speakers are in a dyad, the more time interlocutors will spend. . . in the negotiation of meaning, rather than . . . in the progression of the discourse. (p. 83)

It was also noted that the highest incidence of negotiation was found in the pairs that had the most differences, that is, those that shared neither a language nor a proficiency background.

Task type and variation were examined further in a study by Gass and Varonis (1985) in which they looked more closely at the interaction of task variation and the negotiation of meaning within groups of NNSs. This report continued the use of the earlier (Varonis & Gass, 1985) model of negotiation of meaning, and the results indicated that there was no significant difference in the amount of negotiation between a one-way, picture drawing task and a two-way, discussion task. It is important to

recognize that the one-way task required one speaker/listener to describe a picture so that a second speaker/listener could draw it. The two-way task consisted of an activity in which all the participants listened separately to different taped interviews between a "detective" and two of four "robbery suspects," so that they could share their information in an attempt to determine who had committed the robbery. The results of the study may be misleading, as it is now known that more than task type influences the type and amount of interaction and negotiation between interlocutors. It may not have been a case of one-way versus two-way tasks that accounted for the lack of significant difference, but the greater need for accuracy in the case of the picture drawing task and the need for negotiation in the case of the crime solving task. The nature of the speech in each task would clearly be different, and the obligatory need for negotiation in the two-way task may have precluded the need for overt indications of unaccepted input. Furthermore, in a discussion among more than two individuals, there would be more opportunities to deduce other speakers' meanings from the context, without having to resort to the kinds of signals that Gass and Varonis measured. Indeed, the Doughty and Pica (1986) study found that "when an exchange of information is guaranteed, a great deal of modification can be generated in a nonnative speaker group situation" (p. 322). One might agree with Gass and Varonis (1985), however, when they suggested that "the amount of information exchange required by a given task is a continuous rather than a dichotomous variable. This of course, makes comparison a complex process" (p. 159).

Patricia Duff (1986) investigated the effect of task type on the interaction and input of nonnative speaker pairs and found that convergent, problem-

solving tasks produced more turn-taking, more communication units (c-units) and more questions than did divergent, debate-style tasks. In her problem-solving task, learners were asked to agree on a solution to a problem, in this case choosing from lists of items to be taken onto a desert island after a shipwreck. A limited number of items could be chosen, and the participants had to agree on what to take and what to leave behind. The debate-style task had learners defend opposing views on watching television and attitudes toward the relationship between age and wisdom. The interaction observed in the former tasks was of the type associated with the production of comprehensible input and, theoretically, the increased possibility of acquisition of new linguistic structures. Within the limitations of small sample size and low interrater reliability, the researcher concluded that problem solving tasks are more useful for instruction and language practice in L2 classrooms.

Other Variables in Interaction

Approaching the study of NNS interactions from the perspective of gender differences, Gass and Varonis (1986) looked at negotiation of meaning, negotiation as a function of task, and negotiation as a function of role, using a picture drawing task and free conversation. They found that female/female dyads exhibited the least amount of negotiation in all conditions, with male/male pairs showing only slightly more. On the other hand, male/female and female/male dyads exhibited more negotiation for all the tasks. They also found that the role of the interlocutor in the picture task, that is, as describer or drawer, did not interact with sex.

An examination by Pica (1987) into the interlanguage adjustments of NS-NNS interactions was motivated by Swain's (1985) assertion that

opportunities to produce language are as important for SLA as opportunities to understand it. A taped conversation between NSs and NNSs provided the data which were studied to examine what NNSs do to modify their utterances to make them more comprehensible to NSs. It was noted that the NSs signaled non-comprehensibility of an utterance in three ways, and those signals had a direct effect on the manner in which the NNSs modified their subsequent utterance. One signal was an explicit indication of difficulty such as I can't understand you or I don't follow. The second type was repetition of the NNS's utterance with rising intonation, as in [NNS: me the book the baby; NS: did you say the book the baby?]. The third signal was a request for confirmation through modification, as in [NNS: me the book the baby; NS: Did you say the baby's book?]. It was found that the first two signals, though appearing less frequently, were more conducive to the NNSs' modification of their utterances than the third, more abundant indication. The author claimed that: "These two kinds of signals appeared to invite the NNSs to bring new information into their discourse with the NS, whereas modification signals did this for them" (p. 66). She further contended that

In repeating the NNSs' very own interlanguage words, the NS seemed to signal to the NNSs that their utterances, although difficult to understand, could at least be perceived, and that they needed only to go slightly beyond this level of production in order to achieve comprehensibility. (Pica, 1988, p. 66)

She concluded that learners are able to change their interlanguage in a direction toward target language norms when asked by a NS to make themselves understood.

Continuing this line of research, in a study of output as an outcome of the types of linguistic demands placed on learners, Pica, Holliday, Lewis, & Morgenthaler (1989) looked at how L2 learners responded linguistically when their native speaking interlocutors indicated difficulty in understanding them while performing three different tasks. The subjects were tape-recorded in pairs while performing an information-gap (picture drawing) task, a jigsaw puzzle task, and a discussion of the other two tasks. It was reported that the information-gap task produced more opportunities for the NNS to modify their output in response to NS requests for clarification and confirmation. There was no significant difference between the other two tasks (jigsaw task and discussion) in terms of the opportunities they provided the NNSs to modify their output. Further analysis of the data revealed that, on all three tasks, NSs offered male and female NNSs comparable opportunities to produce output, but only on the information-gap tasks did the NS offer greater and more consistent opportunities for the NNSs to modify their output. No differences were found between the males and females in their total output to the NSs. The far-reaching finding of this study was:

... a picture in which the information-gap task, more than the jigsaw or discussion tasks, offered what seemed to be better conditions for all NNSs, male and female, to modify their output to the NS in that it seemed to provide the most consistently favorable context for NSs to signal their need for clarity or confirmation and for NNSs to respond with modified output. (p. 83)

Negotiation in Interaction

The importance of negotiation of meaning to SLA has been established, and its role is not being debated here. It is clear, however, that

communicative effectiveness goes beyond one's ability to negotiate meaning. A recent study by Yule and Macdonald (1990) investigated the effect of language proficiency and perceived 'role' in the performance of a two-way, information exchange task. This piece of research used a task which was designed to present referential conflicts and examined the solutions of pairs of subjects arranged according to English language proficiency levels. In one condition, higher proficiency students were given the task of describing a route on a delivery map to a lower proficiency student who had a similar, but older, map. In a second condition, the roles were reversed. An analysis of the interactions showed major differences in terms of turn-taking, negotiation of meaning, and consideration of the other's perspective between the two types of participant arrangements.

Solutions to the referential problems typically fell into four categories and were analyzed according to frequency of occurrence of (a) problem not identified, (b) problem identified and ignored or given up, (c) problem identified and solved by mandate, and (d) problem identified and solved by negotiation. Pairs in which the lower proficiency member had the dominant role in the exchange of information employed more negotiation (67.5% of the time), considered each other's perspective, and employed successful resolutions to the referential conflicts. When the higher proficiency participant had the dominant role, very little interactive cooperation or negotiation occurred (17.5% of the time), and occasionally the task itself was altered. The authors concluded that "if it is the interactive negotiation of meaning in the process of achieving successful communication that we wish to foster, then, when we pair different proficiency participants, with different

L1s, we should make sure that the higher proficiency member is . . . given the least dominant role within the task" (p. 541).

A similar study (Yule, in press) analyzed the communicative behavior of a group of advanced Indian and Chinese ESL speakers during a map task similar to the one used in the Yule and Macdonald (1990) study. This research design consisted of two conditions. Condition I subjects were arranged so that the higher proficiency Indian students were placed in the more dominant role of sender of information to perform three map tasks. In Condition II the Indian students were placed in that role for the first and third map tasks, but for the second map task the roles were reversed, and the Chinese student became the sender of information. Building on the analytical framework from the earlier investigation, Yule (in press) found that performance on the third map task in Condition I showed negotiated solutions 45% of the time (compared to 15% on the map 1 task), and in Condition II, the third map task evidenced negotiated solutions 60% of the time (compared to 10% on the first map task), a difference which reaches statistical significance. He noted that:

Whereas practice, as in the Condition I results, can bring about some movement towards more negotiated (hence communicatively successful) solutions, there seems to be a much more powerful effect associated with the experience of having been the receiver of communicated information in this type of information-transfer task.
(p. 25)

An earlier study by Anderson, Yule, and Brown (1984) also demonstrated that an individual who first experiences difficulty as the receiver of information will become a more effective speaker when later placed in the role of sender

of information. The implications of such results for those involved in the instruction of this and similar kinds of NNSs populations are that tasks must be provided which encourage students to negotiate with (i.e., take into account the communicative needs of) their listeners, and putting students into the role of listener seems to sensitize them to those needs.

The entire area of research reported in the preceding pages has continued up to the present time, with even more analyses of the effect on learner output of the conditions established by the teacher in the learning environment. I will continue within this general framework of task-based learning in discovering whether different kinds of teacher-determined materials have an impact within the learner's ability to perform the task. The more immediate background to the research I will report is related to the needs of a particular L2 learning population and particular task types.

The "Foreign TA Problem"

The "Foreign TA Problem" (Bailey, 1984) has been the subject of much debate on American campuses and at language conferences in recent years. When faced with the prospect of learning unfamiliar content from an instructor whose spoken English skills leave much to be desired, American undergraduate students understandably became vocal in their criticisms and demands. The protests finally reached the point in some states that legislatures became involved, and provisions were made to try to rectify the problem. Most of these provisions entailed setting up programs specifically designed to address the needs of the international teaching assistants (ITAs). To that end, many universities have implemented programs with materials designed to improve the spoken English skills of ITAs who have been or will be given the responsibility of teaching entry level courses to American

undergraduates (cf. Bailey, Pialorsi & Zukowski-Faust, 1984; Chism, 1987; Pica, Barnes, & Finger, 1990). These programs take many forms and address different aspects of the needs of these graduate students. Pronunciation problems, cultural adjustment difficulties, and instructional techniques have figured prominently in the design of such programs (e.g., Davies, Tyler & Koran, 1989; Douglas & Selinker, 1986; Rounds, 1987).

One piece of very specialized research has examined the relationship between type of input and modification of output, using tasks designed to simulate common classroom practice in one ITA training program (Macdonald, 1991). In addition, many studies have investigated the communicative effectiveness of these students with consideration of the pedagogical tasks facing them (Yule, 1991; Yule & Macdonald, 1990). In most instances, the inability of these ITAs to effectively communicate subject matter to their students lies not just in their problems with pronunciation or cultural misunderstandings or in the absence of formal teacher training programs, but also in their lack of effective L2 communication skills. For example, a recent study (Yule, 1990) indicated that ITAs with relatively high English language proficiency had a strong tendency to focus on their own role in an information-transfer task and to pay very little attention to the perspectives or needs of their listeners.

In an ideal situation, the ITAs would have opportunities to interact with American undergraduate students in situations which simulate that of an entry level class required of those students, especially in fields like mathematics, computer science, chemistry, and engineering, those where there is an inordinate number of ITAs. However, in most practical situations, this arrangement is not a viable option, and instructors find

themselves in much the same position as any ESL teacher: NNSs have to be paired with other NNSs for interactive tasks. Learners have to learn through interaction with other learners. Recognizing this situation has led to a reconsideration of the somewhat narrow perspectives taken with regard to the work of ITA programs. ITA training is often seen as a separate, highly specialized activity with no relevance for other L2 programs. Although ITA training has a specific purpose, it should also be remembered that ITAs are second language learners, and findings from research on second language learning are relevant with regard to developing ITA language skills. Furthermore, looking at aspects of ITA training in terms of the development of communicative effectiveness in a second language, there is no reason to question why work in that area should not apply to thinking in other areas of second language learning, and vice versa. Most of the studies cited earlier in this paper were prompted by claims in the ESL literature about the benefits of interaction for second language learning. Several were carried out with learners who were exclusively ITAs in a training program, and they all produced findings that not only proved useful in developing activities for ITA programs but also have implications for claims about how effective communicative interaction can be fostered in a second language and therefore are relevant for any second or foreign language classroom.

The Present Study

The study reported here was motivated in part by the Yule and Macdonald (1990) and Yule (in press) findings, and it investigates the effectiveness of making students aware of their communicative behavior, not via the same sort of role reversals found in the latter study, but by active

intervention, using different instructional formats under four conditions. In one condition pairs of learners performed an information-sharing task requiring one member of the pair to give directions so that the other member could draw a delivery route on a map. Immediately following the completion of the task, there was a discussion of the special kinds of referential problems the learners may have encountered while performing the task. Following the discussion, a second map task, very similar to the first, was performed. No discussion took place after the second task; rather, the learners were immediately given a third task, similar in type to the first two. In this task the direction of a path on a diagram was described by one participant so that his/her partner could draw it on another diagram. The tasks and procedures were identical in the two other conditions, except that in the second condition the discussion between the two map tasks focused on linguistic (pronunciation, lexis and grammar) problems the participants may have experienced. The third condition consisted of all three tasks, but there was no intervening discussion at all. A fourth condition had learners performing only the diagram task, with no discussion before or after. The study examined the communicative behavior of the learners on each of the tasks in the four conditions.

Task materials

The kind of task that creates referential problems originated with Brown et al. (1984) in a study of native English speaker adolescents in Scotland. They found that:

In spite of the difficulty of grading or assessing the task as it is performed, it still seems worthwhile including tasks of this sort in the teaching programme, precisely in order to give pupils practice in

coping in a sympathetic and helpful way when the other speaker has incompatible information. (p. 72)

Additional pedagogical use of this type of task has been described by Brown (1986, 1987), Anderson and Lynch (1988) and Tarone and Yule (1989). The fact that the task type has been proposed for use in a handbook for language teachers (Anderson & Lynch, 1988) lends additional credence to the claim that it can provide L2 learners excellent opportunities for developing and practicing communicative effectiveness without focusing on the linguistic form of the speakers' utterances.

It has been shown previously by Yule (1989, 1990, in press) and Yule and Macdonald (1990) that task materials such as those used in this study provide learners with ample opportunity to interact, to negotiate meaning, and to use communication strategies. Those studies also demonstrated that the task types typically help to elicit extended periods of discourse from students. All of the materials meet the criteria proposed by Long (1981), Doughty and Pica (1986), Pica and Doughty (1988), Duff (1986), and Gass and Varonis (1984, 1985) with regard to task types which are beneficial to L2 acquisition, although this study makes no claims about the L2 acquisition process.

Materials such as these create conflict and, more importantly, the opportunity to successfully resolve the conflict, through the development and use of effective communication skills. Such skills are basic to cooperative interaction within the surroundings of the L2 classroom, in effective instruction in any classroom, and especially in the chaotic environment of the world outside the classroom. The research study reported in the following pages sought to examine in detail the communicative behavior of

ESL learners performing interactive, information-exchange tasks, with an eye to establishing background knowledge relating to approaches which may best facilitate acquisition of effective communication skills.

The two map tasks were set up such that Map 1 represented a pre-test and Map 2 a post-test. The diagram was created for this study and was included as the third task in an attempt to investigate the performance of subjects on a somewhat different, but analogous, task. No precedent for this design was found in the current literature on task-based learning or SLA. Research designs used in previous studies were limited to comparing the performances of subjects on very different task types and with different learner arrangements. It was felt that an important aspect of the current study was a determination of whether the nature of the map tasks themselves might have an effect on the behavior of the subjects. In addition, it was undertaken to determine if the effect of the interventions would be immediately observable on the Map 2 task and, subsequently, on the Diagram task or whether the effect might be delayed beyond the second map task and become apparent only on the third, diagram, task. The diagram was designed to include identical types of referential problems as those found in the map tasks. The nature of the task differed in that it might be considered by the subjects to be closer to the kinds of tasks they encounter in their respective fields.

Research questions

The research questions to be addressed in this study can be divided into: (a) one general question which focuses on task type and subsequent communicative behavior and (b) two specific questions which focus on differences in intervention types and the effect of practice on map and

diagram tasks. For the purposes of this study the research design and analysis discussed in Chapter 3 address the specific research questions; the discussion of the general question will be addressed in Chapter 5. The general question is:

- (1) Is a task type that (a) creates conflict and (b) requires an exchange of information useful in developing communicative effectiveness in advanced ESL learners?

The specific research questions to be answered within the framework of the data analysis focus on the variation in the learners' communicative behavior on information-exchange tasks subsequent to different intervention events. Those questions are:

- (2) Do different intervention events (i.e., world of reference vs. linguistic form vs. no intervention) using this task type differentially affect communicative behavior?
- (3) Do the effects of practice using this task type and different intervention events vary according to the materials used (i.e., map only, map and diagram, diagram only)?

CHAPTER THREE

Methodology

Subjects

Seventy (70) subjects participated in the study. They were all members of a population of approximately 140 international graduate students enrolled in sections of COMD 1051, a Spoken American English course at Louisiana State University during Fall semester, 1990. The graduate school at LSU has mandated that all international students who have or will have graduate teaching assistantships must enroll in and successfully complete COMD 1051 before they can be given teaching duties. The population is composed of students from many countries who are pursuing advanced degrees in areas such as engineering, mathematics, computer science, chemistry and physics. Information concerning the age of this particular population is not known. However, another similar population used in a study in the 1988 academic year had an age range of 21 to 42 years, with a mean age of 25.5 years. There is no reason to suspect that the population used in the current study differed significantly. Participation in the study was strictly voluntary and was not a part of the course content. No rewards or inducement were offered to participants. Data were gathered early in the semester to ensure that subjects had no previous experience with tasks such as the ones used in the study.

The subjects were divided into two groups, based on native language and English language proficiency. As the Yule and Macdonald (1990) and Yule (in press) studies have shown, difference in language proficiency of two interlocutors has a strong effect on the amount of negotiated interaction present in information-transfer tasks. Another variable that has been shown

to influence performance on tasks is lack of a shared L1. According to Varonis and Gass (1985), pairing NNSs who do not share a language background results in greater negotiation of meaning. The subjects in this study were paired so that they shared neither language proficiency nor language background.

The first group of subjects in the study, who will be referred to as "Senders," represented the following self-reported L1s: Hindi (12), Kannada (2), Bengali (2), Tamil (2), Greek (1), and Portuguese (1). The second group, called "Receivers," were self-reported L1 speakers of Chinese (38), Taiwanese (3)¹, Korean (8), and Arabic (1). As a prerequisite for entering the graduate school at LSU, all international students must have taken the Test of English as a Foreign Language (TOEFL), which is a standardized test of English proficiency administered through Educational Testing Service. Although all the students enrolled in the Spoken American English course would be classified as advanced in terms of their English language proficiency on the TOEFL ($\mu = 594.686$; $SD = 34.745$), the two groups of subjects in the sample did have a distinct English language proficiency difference between them. The Sender group ($M = 640.1$; $SD = 16.43$) had a significantly higher proficiency level than the Receiver group ($M = 574.06$; $SD = 24.01$), confirmed by an independent samples t-test ($t(68) = 12.96$; $p < .001$). Yule (1990) observed that a greater amount of negotiation takes place in pairs where the less proficient member is given the more dominant role. To test whether the communicative behavior of the participants could be altered using an intervention event, all higher proficient students were placed in the role of Sender.

The Senders were randomly assigned to four sub-groups and the Receivers to ten sub-groups, to perform information-exchange tasks. To check that this sub-grouping process had maintained the proficiency distinction between the two populations but had not inadvertently created any artificial differences between any one Sender group and Receiver group pairing, an analysis of variance was first conducted using sub-group mean TOEFL scores. The result, $F [13, 56] = 10.89, p < .001$, established that the distinction between the two original populations did exist. A Tukey's HSD Test further confirmed that all pairwise comparisons among means (of each Sender group and its paired Receiver groups) exceeded the critical difference ($\alpha = .01$).

Twelve females participated in the study, and the variable of gender was controlled in the arrangement of the pairs. That is, no female was placed in the role of Sender with a male Receiver. Experience has shown that females in this population, particularly those from many Asian cultures, tend to avoid what they perceive as a dominant role. When interacting with males, females frequently take on a submissive, non-dominant role. Because of the perception of dominance and non-dominance observed in the Yule (1990) study, action was taken in the current study to ensure that females were placed in the less dominant Receiver role or were paired with other females. Two of the Senders were female, and each had only less proficient female Receivers. Table A- 1 in Appendix A illustrates the dyad arrangement of all Senders and Receivers and indicates their country of origin.

Research Design

The design of the study consisted of four conditions, three tasks, and two interventions. Pairs of subjects were grouped in each condition to

perform the tasks. Groups 1, 2, and 3 in Conditions I, II, and III consisted of five Senders and five Receivers each. Senders remained the same across tasks, with new Receivers for each subsequent task. Table 1 illustrates the research design.

Table 1
Research Design and Group Arrangement

	<u>Map 1</u>	<u>Intervention</u>	<u>Map 2</u>	<u>Diagram</u>
Condition I	<u>Group1</u> S 1-5 → R 1-5	<u>Referential</u>	<u>Group4</u> S 1-5 → R 6-10	<u>Group7</u> S 1-5 → R 11-15
Condition II	<u>Group2</u> S 6-10 → R 16-20	<u>Linguistic</u>	<u>Group5</u> S 6-10 → R 21-25	<u>Group8</u> S 6-10 → R 26-30
Condition III	<u>Group3</u> S 11-15 → R 31-35	Ø	<u>Group6</u> S 11-15 → R 36-4	<u>Group9</u> S 11-15 → R 41-45
Condition IV				<u>Group10</u> S 16-20 → R 46-50

S = Senders; R = Receivers

Conditions I and II, with the two intervention types, were the primary focus of the study. The other two conditions, III and IV, were designed to establish control conditions. In Condition III, subjects performed the same three tasks as the subjects in Conditions I and II, but without any intervening discussion. The group of subjects (Group 10) in Condition IV consisted of five

Senders and five Receivers who completed only the Diagram task, the purpose of which was to establish baseline data for that task.

Materials

The materials used for the tasks in this study consisted of two versions of two maps and two versions of a diagram. The maps and the diagrams provide an opportunity for two subjects to interact in the cooperative solution of problems which neither could solve alone. For this reason, the activity qualifies as a two-way exchange of information task rather than a one-way transfer of information task. That is, each participant has information crucial to the successful solution of the problems encountered on the maps and in the diagrams. Versions of the maps have been used previously in studies showing the effect of proficiency and interactive role in resolving problems of conflict in reference in L2 interaction (Yule, 1990) and in the development of effective communication through negotiation of referential conflicts (Yule, in press).

The diagram was designed specifically for this study, to determine if the communicative behavior of the subjects would change on a third task. The format of the diagram is similar to that of a circuit diagram; however, care was taken to avoid the use of terms commonly associated with circuits or electronics. To avoid situations where a path or a direction between two parts of the diagram might violate some principle of electronics or circuitry, all of the squares and rectangles which might represent components have labels which have no meaning except as referents. Many of the subjects who participated in this study are enrolled in technical fields which require a certain attention to detail, and the diagram represents the kind of task these learners might be called on to perform as part of their course of study and,

therefore, would not be totally unfamiliar to them. The diagram materials were piloted with American undergraduate students to determine a general time frame within which the task could be performed and to ascertain any difficulties students might have in completing the task. All of the students completed the task well within the time limits, and none of them exhibited unexpected problems with the materials.

Versions of the maps (1A and 1B; 2A and 2B) and the diagrams (1 and 2) were similar except that a route was marked on the first version and not on the second version. Map 1A (the Sender's version) was a representation of streets and buildings labeled, for example, "Bookstore," "Church," "Records," "Office," and "Pets." On it was drawn a route with arrows, showing stops at ten of the buildings. Map 1B (the Receiver's version) was similar, but there was no route drawn. (Both versions of Map 1 are located in Appendix B.) Maps 2A and 2B correspond to Maps 1A and 1B, with different buildings and routes. (Copies of Map 2 can be found in Appendix D.) The Diagrams were configured somewhat similarly to a circuit diagram, with components labeled "Central STD," "Normalizer," "Power System," "Regulator," and so forth. Diagram 1 (Sender) had lines connecting the components, with arrows marking the direction of flow. Diagram 2 (Receiver) also had the paths marked, but there were no arrows to show direction. (Diagrams 1 and 2 are located in Appendix E.)

Procedure

For the collection of the data, pairs of subjects were placed in small rooms which were quiet and easily monitored through glass windows. Subjects were seated at carrels which had a partition between them, allowing the individuals to see each other but not each other's maps. The

arrangement allowed for freedom of movement, gestures, and a view of facial expressions. A tape recorder with an external microphone was placed between them. The subjects were told they had fifteen minutes to complete the task. All spoken interactions were audiotaped and transcribed. The researcher was not present during any of the tasks.

The Map 1 Task

Four specific differences or problems were built into the design of the first Map task. These problems and their solutions were the focus of attention in this study.

Problem 1: Map 1A has a road going south from the entrance to the "Records" store, while on Map 1B the road is blocked off.

Problem 2: Map 1A has a building labeled "Hats" which on Map 1B (same location) is labeled "Bicycles."

Problem 3: Map 1A shows a delivery to an "Office" where on Map 1B there are three "Offices."

Problem 4: Map 1A has two "Dentists," one below a "Motel" and one to the east of the "Motel," while Map 1B has only one "Dentist" to the east of the "Motel," and a "Doctor" below the "Motel."

In order to successfully complete the map task, the subjects who knew the route (the Senders) had to describe it to the Receivers so that they could draw it on their maps. The Senders in Groups 1, 2, and 3 were given Map 1A and the Receivers in those Groups were given Map 1B. They received the following written instructions:

To Speaker A (Sender):

You have a map with a delivery route marked on it, showing where ten packages have to be delivered.

Your partner has a similar map, but does not know the delivery route. Describe the route so that your partner can draw the delivery route on his/her map.

To Speaker B (Receiver):

You have to draw the delivery route on your map. You can ask questions any time you want.

To Both Speakers:

The two maps are similar, but one is older than the other. You will find that some parts of your maps are different.

The Interventions

Both Interventions took place in a separate room with only the subjects and a linguistics graduate student present. The graduate students acted as leaders of the intervention discussion. In each case the subjects were given identical written instructions which were as follows:

When other students have performed the map task, we have noted some problems which are presented on these pages. How would you advise these speakers to overcome these problems in the future?

The intervention discussions were audiotaped and transcribed. (All intervention materials are located in Appendix C.)

The role of the leader in both interventions was one of guide or facilitator, representing as far as possible the environment of a language classroom in which a learner-centered communicative approach to learning has been adopted. Both the graduate students had had extensive experience with nonnative speakers and ESL students. Although there was no explicit instruction in either condition, the group leaders were there to make sure

that subjects remained focused on the salient features of the data extracts and that all subjects had an opportunity to participate in the discussion.

The interventions were characterized by large amounts of participant talk and very little facilitator talk. The subjects were vocal in their opinions about how best to accomplish the tasks. The conversations were punctuated by anecdotal evidence from their own experiences with the first task, and it was evident that they had encountered problems similar to the ones being discussed in the intervention. It was not always possible (nor was it necessary) to determine which of the subjects were talking at any one time. However, it was apparent that all five students were actively participating in the discussion. One of the purposes of the design of the interventions was to simulate a classroom-type discussion, giving the students primary responsibility for maintaining the flow of information. Tape-recorded evidence indicates that the interventions were quite successful in that regard.

Condition I intervention. After the completion of the first Map task, the Receivers were allowed to leave, and the five Senders in Group 1 took part in a discussion, led by the linguistics graduate student. The discussion had as its focus the successful or unsuccessful resolution of the types of referential problems encountered in the first map task. Using sample transcriptions and data from past studies (Yule & Macdonald, 1990; Yule, in press) which showed the problem areas on both the Sender's and the Receiver's map that had caused difficulties, subjects were encouraged to suggest possible solutions. The task of the discussion leader was not to instruct the students but to lead them to participate in the discussion and to ensure that the participants focused on the relevant topic.

Each problem type found in the first map task was represented in the discussion materials. Although they were not the actual problems encountered by the subjects in this study, the similarity allowed for a discussion of solutions which were applicable to the problems found in the maps in the four conditions. For example, subjects were given parts of a map which showed a delivery on Speaker A's (the Sender's) map to a "Shirts" store, which on Speaker B's (the Receiver's) map is a "TV Repair" shop . Between the two map parts, this problem contained the following transcription:

A: okay cross the intersection and go to Shirts

B: Shirts?

A: Shirts, Shirts

B: I haven't got a Shirts

A: you haven't got Shirts?

B: No

A: Then you just go to Library

Subjects discussed the problem and the rather ineffective manner in which Speakers A and B had dealt with it. They were then asked to offer suggestions for a more effective way of coping with the problem. Any suggestion was accepted as valid, with no answer deemed "right" or "wrong." Although the subjects did not always agree on a best way to solve the problem, most were willing to offer what they considered acceptable ways of handling the dilemma. Four examples were included in the intervention

materials, and the discussion lasted fifteen minutes, the same amount of time allowed for the completion of each of the other tasks.

The following is a transcription from the Condition I Intervention, illustrating the type of discussion that took place between the five subjects and the discussion leader. The subjects are designated A,B,C,D,E and the graduate student is G.

- G: ok so what happens in this - what do you suggest you do in a situation like this where the name of the place is different?
- D: ask him what is next - what building is next to the Motel
- G: uh huh
- B: a lot depends on what you have to do - are we supposed to go to the building?
- D: even if it has a different name?
- G: pardon?
- D: even if it has a different name - are we supposed to ask him to deliver?
- G: this is a decision you have to make - did you guys decide together to make the decision or did you just
- C: actually I just told her what to do and then she said I just keep it - I said good just keep the
- G: oh she just keeps the package you mean instead of delivering it to some place
- C: but I didn't ask her
- G: pardon?
- C: I told her to go to that place

- G: to go to that place - to make a stop there anyhow ok - what if they have a forwarding address for the Shirts store? I mean maybe they're collecting packages for Shirts anyhow I don't know
- C: maybe they're out of business
- G: ok so you see the problems you can run into - in general what do you think is the better idea? (to C) you've already said what you did you decided
- C: yeah
- A: let him talk about the map he has got
- G: ok
- A: so I will be in a better position to know what sort of road he has and what sort of direction he means

Extract 1

Condition II intervention. The five Senders in Group 2 (i.e., Condition II) also participated in a discussion group after the completion of the first task. Their topic centered around the linguistic features used in performing the task. The subjects were given a list of twelve utterances, each containing lexical, syntactic or phonological difficulties which might have affected the outcome of the task. Phonological problems were represented as orthographic approximations of how the mispronounced forms sounded. Subjects were asked to suggest ways of expressing the same information so as to prevent possible misunderstanding. For example, given the phrases "*there is a T-juncture after it bank* " and "*but I don't Bicycles - here is not that* " subjects suggested they might be better expressed as "*there is a junction*

after the Bank " and *"I don't have Bicycles - that is not here."* This discussion was also led by a graduate student in linguistics.

The discussion during the Intervention in Condition II shows how the subjects concentrated on the form of the language they have been shown, as seen in the transcription in Extract 2.

- G: all right number three (reading) 'but which one office
north office south which I go?' ok what's the
problem?
- C: the office on the north the office in the south - to which
one should I go
- G: ok so he's left out all the words - they leave out all the
prepositions right?
- C: oh I just said the office on the top
- (A,C,D): yeah
- G: ok

Extract 2

Immediately after their discussions, the subjects (i.e., the Senders in Groups 1 and 2) returned to their individual rooms where they were given the materials for the Map 2 task and were each paired with a new Receiver, as in Groups 4 and 5. The instructions were once again read aloud and the paired participants were given fifteen minutes to complete the task.

Condition III intervention. The subjects in Group 3 had no discussion session, and the Senders went directly, without any intervention, from the

Map 1 task to the Map 2 task. As was true of all the conditions, a different group of Receivers participated in the second map task.

The Map 2 Task

The second task was also a map task with problems of the same type as the first one. The following is a description of those problems.

Problem 1: Map 2A has a stop marked "Shoes" that is called "Bookstore" on Map 2B.

Problem 2: Map 2A has an east-west road from the entrance of "School" that is a dead-end on Map 2B.

Problem 3: Map 2A shows a delivery to one of two "Restaurants" and Map 2B has only one "Restaurant" with a "Photographer" corresponding to the other "Restaurant" location on Map 2A.

Problem 4: Map 2A has one "Bank" located in an area where there are three "Banks" on Map 2B.

The same groups of Senders who completed the first task were paired with different groups of Receivers to accomplish this task (Groups 3, 4 and 5). The same set of instructions was given to each participant, and the same fifteen minute time limit was set. These interactions were also audiotaped without the researcher present.

The Circuit Diagram Task

Immediately following the second map task, with no intervening discussion, the same groups of Senders were again paired with different groups of Receivers (Groups 7, 8, and 9) and were given the Circuit Diagram task to complete. The directions for this task were as follows:

To Speaker A (Sender)

You have a diagram with a path marked on it. Your partner has an older version of this diagram which is not as complete. Describe the path so that your partner can complete the diagram with the path marked on it.

To Speaker B (Receiver)

You have to draw the direction of the path on your diagram. You can ask questions any time you want.

To Both Speakers

The two diagrams are similar, but one is older than the other. You will find that some parts of your diagrams are different.

This task was designed to present similar types of referential problems as the Map tasks but to look quite different. It required the Senders to describe the direction of flow (marked by arrows on their diagram) through lines connecting a number of components. The task had four referential problems built into it, each one comparable to the problems in the two Map tasks.

Problem 1: The Sender's diagram had a path leading directly to the component "L.P. Meter," while the Receiver had no line in that location at all. However, there was a shared alternative route that allowed the Receiver to reach the "L.P. Meter" component.

Problem 2: The Sender's diagram had a component marked "J-2," while the same component in the same location was labeled "K-4" on the Receiver's diagram.

Problem 3: The Sender's diagram showed a path leading from the "Sensor" to the "T.R.S." to the "Normalizer." The Receiver had three parallel "T.R.S." components which also led to the "Normalizer."

Problem 4: On the Sender's diagram there were three components in close proximity to each other, labeled (from top to bottom) "RD," "S.M.U. Unit," and "S2." The Receiver also had "RD" and "S2" in the same locations, but had "R.E.D. Unit" in the middle position. All three components could have provided a path to the next circuit.

Participants were given fifteen minutes to finish the task, and all interactions were audiotaped without the researcher present.

Method of Analysis

The purpose of this study was to investigate the effect of three different intervention conditions on the L2 performance of the subjects in the Sender position. To do this, the performances of all Senders on all tasks across all four conditions were analyzed in terms of how they coped with the four referential problems built into each task. The categories of analysis are listed and defined in Table 2.

The Analytic Framework

The categories shown in the table and described in the following section evolved from a smaller, more general set of categories used in a similar study by Yule and Macdonald (1990) and Yule (in press). In the current study, those categories have been expanded to include separate sub-categories within the larger domains of "Negotiated" and "Non-negotiated" solutions. In addition, the "No Problem" category was not included in the analysis, for if a problem was not recognized or encountered, there was no communicative interaction leading to a solution by the subjects. In all of the

Table 2
Categories in the Analytic Framework

No Problem (NP)

The problem exists but either is not identified or encountered² by the Sender or the Receiver.

Non-negotiated Solutions

Unacknowledged Problem (UP):

A problem is identified by the Receiver but not acknowledged by the Sender.

Abandon Responsibility (AR):

A problem is identified by the Receiver and acknowledged by the Sender, but the Sender does not take responsibility for solving the problem, either by saying they will skip it, leave it, never mind it, or forget it, or by telling the Receiver to choose any location or path.

Arbitrary Solution (AS):

A problem is identified by the Receiver and acknowledged by the Sender who then makes an arbitrary decision about some defining feature of the location or path. The key element is not accuracy, but the arbitrariness of the decision which does not attempt to take the Receiver's world into account or make the Receiver's world match the Sender's world.

Negotiated Solutions

Receiver's World solution (RW):

A problem is identified and acknowledged by the Sender who then attempts to discover what is in the Receiver's world and uses that information to instruct the Receiver, based on the Receiver's perspective.

Sender's World solution (SW):

A problem is identified and acknowledged by the Sender who then instructs the Receiver to make the Receiver's world match the Sender's, ultimately ignoring any information the Receiver provides which does not fit the Sender's perspective.

other categories, a problem was recognized by at least one member of the pair, and some conclusion toward solving the problem was reached.

The recorded and transcribed data were analyzed independently by the researcher and one other judge who has had extensive experience with the analytical framework and with the discourse of non-native speakers. The solutions to all problems were compared, and decisions on whether one solution or another was represented by the data were made as a result of consultation. A third person who was familiar with the framework and who had expertise in discourse analysis was available to offer another judgment if needed. The relatively few instances of controversy were resolved satisfactorily without benefit of the third judge. That is, interrater reliability was 100%.

The treatment of each problem is described and illustrated below. The representations in the data extracts provided are broad transcriptions of the spoken interactions and are not intended to show subtle variations in accent, intonation or flow of speech. Their intent is to illustrate what the speakers said, not details relating to how they said it.³

Before undertaking to describe the subjects' attempts at solving the referential problems in each of the tasks, it might be helpful to review illustrations of interactions in which no problems existed. The tasks were designed so that the initial steps in performing the tasks contained no overt difficulties. That is, the locations, routes, and labels on the Senders' versions matched exactly those on the Receivers' versions. Of course, some questions concerning where to begin, or what constituted a left turn or a right turn occasionally did occur, but those issues had no bearing on the outcome of the referential problems encountered later in the tasks.

In the following extract from Map 2, the subjects had to first get their bearings, and then they proceeded without much difficulty through the first stops on the map.

- S: start at the top left corner of the map
R: left corner?
S: left - top left corner of the map
R: yeah
S: start from there and go to the Library
R: which direction?
S: go right
R: go right? okay
S: reach the Library - go straight - and reach the Library
R: Library
S: yeah
R: okay
S: the first building you see is the Library
R: yeah- the package is on upper corner of the left
S: left top corner
R: yeah
S: from the Library you go to Pets
R: Pets? okay
S: from Pets you go down to the Doctor
R: which direction? oh, I see
S: you go right - then go down
R: yeah - I see

- S: and the go right again - you see the Doctor - just above the Restaurant
- R: yeah
- S: from there you go up and turn right and go to the Post Office
- R: yeah
- (Some discussion about the number of packages)
- S: from the Post Office you go right and reach the Motel
- R: Motel
- S: yeah
- R: yeah

Extract 3

Notice that the Receiver asks very few questions of the Sender. He merely echoes the Sender or affirms what the Sender has said.

In extract 4, the speakers have a little difficulty locating the road on the map, but once they solve that minor problem they proceed without incident to the next four stops.

- S: you got the Bookstore?
- R: yes - I did
- S: bottom of the map in the left hand side - corner
- R: yeah - Bookstore
- S: okay?
- R: start from Bookstore

- S: don't start from the Bookstore - below Bookstore there is a lane - okay? start from that lane - that road - okay? so that first it goes to the Bookstore
- R: start from Bookstore - start from Bookstore
- S: at the bottom of the map there is a road - okay?
- R: yeah
- S: you have seen that road - no? so start from the left hand corner of that road and go to the Bookstore
- R: from the corner of the road - start from the corner of the road - right?
- S: yeah - at the end of the road - start from the beginning - not end-beginning of the road at the left hand side - then go to Bookstore
- R: go to Bookstore?
- S: yeah - then from Bookstore go to the Bank - have you seen the Bank - just above Bookstore? to the north of Bookstore - did you find the Bank?
- R: yes - to the Bank
- S: then from the Bank come back and go to the Candy store
- R: go to the Candy
- S: Candy store - yeah
- R: Candy is the left
- S: left - yeah
- R: go to the Candy store
- S: then from Candy then come back and go along that route to the north - to the top of the map - school - you'll find a school there?
- R: go to the School's to the north

- S: yeah
- R: from the School?
- S: then from the school you come down - okay? you have seen the Restaurant? don't go to the Restaurant - just below the Restaurant there is a Records
- R: yeah - go to Records?
- S: yeah - go to Records

Extract 4

No Problem. Although the tasks were designed with specific problems built into them, it was found that, on some occasions, the speakers acted as though there was no referential problem. In the Map 1 task, there is a point where the Sender has one Office and the Receiver has three Offices in that same area. Despite the discrepancy in their worlds of reference, the subjects in extract 5 experience no problem. The Receiver expresses some doubt (I think so) which could be an indication of some problem not related to the referential problem in the task. That information is not explicit in what the Receiver says. In any case, the Sender assumes that the destination has been located and moves on. The Receiver has given no clear indication that he recognizes the differences between their worlds.

- S: from there go to Office
- R: go to Office
- S: right - right side below the Records
- R: em - below the Records
- S: you found the Office

R: yeah I think so

S: okay

Extract 5

In the Map 2 task, the route from the School on the Sender's map doesn't exist for the Receiver. This discrepancy is not recognized by either participant in extract 6. The Receiver agrees to follow a direction that is not possible on his map. Notice also that the Receiver's mention of the Bar might have been a clue to the Sender that the Receiver has gone in the opposite direction after leaving the School, but neither subject recognizes the problem.

S: and from School, you come out from School

R: yeah

S: and go to right

R: yeah - go to right

S: can you go to right from there?

R: yeah - and it uh Bar?

S: there's a place called Dentist

R: Dentist? Dentist is left side

S: okay you go to the left side

R: From School to Dentist?

S: okay

R: okay

Extract 6

In extract 7, from the Circuit Diagram task, the Receiver is told to go to a component that does not exist on his diagram. The Receiver refers to the component by the Sender's label, and his only concern seems to be whether or not he needs to draw an arrow there.

- S: And from the Analyzer you can go to the J2
R: J2?
S: there is an arrow
R: okay - J2 is on the left?
S: it's upwards from the Analyzer
R: there are two lines upwards - one is to Regulator and other to J2?
S: yeah - and the other is to J2
R: okay - there is arrow there?
S: the arrow is only between Analyzer and J2 - it points to J2
R: okay

Extract 7

Also from the Circuit Diagram task, extract 8 illustrates another instance where the Receiver acknowledges a direction to go to a component that he simply does not have in his diagram and consequently no referential problem is encountered.

- S: go to the S.M.U. Unit
R: oh yes
S: okay?

R: okay

Extract 8

Because the interest of this study is in the description and analysis of actual solutions to referential problems, not in whether they were encountered or recognized, the preceding interactions (extracts 5 - 8) have been categorized as “no problem recognized or encountered” and attention will now be focused on those interactions where some solution is attempted because a problem is actually identified.

Non-negotiated Solutions

Non-negotiated solutions contain little discussion about information in the Receiver’s world. Rather, they are one-sided monologues by the Sender with monosyllabic or very short responses from the Receiver. The Sender demonstrates little interest in the Receiver’s world or in information the Receiver offers. Under this general heading three types of responses by the Senders are categorized. Unacknowledged problem, abandon responsibility, and arbitrary solution types tend to occur when the Sender lends little relevance to contributions by the Receiver. The solutions are frequently accompanied by expressions such as ‘I tell you’ - ‘you listen’ - ‘you don’t talk’ - ‘let me do the talking’ and ‘just follow my directions.’

Unacknowledged problem:. The examples in the following extracts are distinct from the “No Problem” category in that the Receiver recognizes that there is a discrepancy and attempts to convey that information to the Sender, but the Sender does not acknowledge that a problem exists.

Extract 9 from the Map 1 task shows the Receiver attempting to describe his situation (he has three Offices in the location where the Sender

has only one Office), with the Sender disregarding the potentially problematic information.

- S: go inside that small lane you'll find Office
 R: okay
 S: got it? good okay from Office / we'll -
 R: / three Office in there
 S: right
 R: yeah
 S: the Office is the same okay - from Office - after finishing our
 work we come out

Extract 9

In extract 10 from the Map 2 task, the Receiver indicates that a problem exists, but the Sender apparently ignores the indications and continues to give directions. This interaction actually results in the Receiver's going to the wrong location.

- S; from the Dentist you go to the Restaurant
 R: Dentist - go to the Restaurant
 S: do you have something called Magazines - marked Magazines?
 R: yeah
 S: above Magazines there's a block on which Restaurant is written
 R: oh - no - it's under right of Magazines
 S: yeah that's right - it's on the right of the Mag- if you look this
 way it's above the Magazines

- R: yeah - I reached it
 S: yeah - go to the Restaurant
 R: yeah

Extract 10

A similar situation occurs during the Circuit Diagram task in extract 11, when the Receiver repeatedly asks about the component on his diagram, which he seems to sense is different from his partner's, only to have the Sender direct him on the basis of the labels on his own components. In fact, the Receiver ultimately refers to the component by the Sender's label, and the Sender never acknowledges that there is a problem.

- S: the arrow is from SDB to the Power System and from the Power System upwards to S2 - R- SMU Unit
 R: uh huh - what? S2 and there is a Red Unit?
 S: SMU unit - this is upwards
 R: SMU Unit? not RED Unit?
 S: and from the SMU Unit, out from the Power System you can go also to the RD unit
 R: okay -okay - and that's three - RD - SMU - and S2 are connected with the Central STD?
 S: yeah - that's right

Extract 11

In extract 12 from the Circuit Diagram task, the Receiver tries to bring up a different problem, but once again the Sender does not acknowledge it.

- S: from the Sensor you go to T.R.S.
 R: T.R.S. - I have three route okay
 S: okay that T.R.S. is between Sensor and Normalizer
 R: between Sensor and Normalizer right
 S: right from the Sensor you go to T.R.S. and from T.R.S. you go to the Normalizer

Extract 12

Abandon Responsibility. In these examples, a problem is recognized and acknowledged by the Sender, who makes an initial attempt to solve it but finally abandons any responsibility for finding a solution. Often the Receiver is left to his own devices to determine which route or path to take, even though he has not been given enough information to enable him to make the right choice. These interactions are sometimes characterized by expressions such as never mind or forget that. In the Map 1 task, the Sender has to direct the Receiver from Records to Hats to Office. Notice how, in extract 13, the problematic Hats location (which is labeled Bicycles on the Receiver's map) is simply abandoned, despite the fact that the Receiver offers information about what he has in that location.

- R: I have not Hats
 S: you don't have Hats?
 R: I have Church and right is Bicycles

S: right is what?
 R: Bicycles
 S: hmm - okay can you see the Office?
 R: yeah I see Office
 S: can you go from Records to Office?
 R: yes

Extract 13

In extract 14, the same problem is encountered and the Sender makes no attempt to find out what the Receiver has in the vicinity of the Sender's Hats.

S: do you have a place called Hats on you map?
 R: Hats?
 S: Hat - Hats
 R: uh- H-
 S: H-A-T-S
 R: no - no
 S: you have no place called like that?
 R: no - no Hats
 S: okay - I will take you to the Office

Extract 14

In extract 15, from the Map 2 task, the Receiver indicates that he has a Bookstore where the Sender believes there is a Shoe store. Rather than discussing or attempting to solve this problem, the Sender declares that no

problem exists and abandons the responsibility for solving it. The Receiver voices no objection, and the pair continues to the next location.

- S: just below the bl- sh- Hats do you have Shoes?
R: there's a Bookstore
S: okay fine that's no problem see because this is outdated map - so we don't go to that at all - we just skip that

Extract 15

Unlike the Sender in extract 15, who gives a reason for his decision to abandon the problem, the participants in extract 16 simply establish that there is no Shoe store and then give up any attempt at finding a solution to the problem. The Sender asks only about information pertaining to his map and expresses no interest in discovering what the Receiver may have in the location of the Shoe store.

- S: can you see a Shoes shop at the left?
R: yeah yeah yeah
S: go to the Shoes shop
R: oh I no Shoes shop
S: there's no Shoes shop?
R: no Shoes shop
S: never mind never mind - you go straight down
R: yeah

Extract 16

Extract 17 from the Circuit Diagram task illustrates another version of the Sender's "abandon responsibility" solution to a referential problem. The Sender's diagram has a circuit connected through a single T.R.S., while the Receiver has that label on three parallel components. Rather than determine, with the help of the Receiver, which of the three components is the correct route, the Sender leaves the choice to the Receiver. The Receiver has no basis for choosing the specific component, therefore the Sender is essentially abandoning a crucial responsibility connected with his role in the task.

- S: take the way that is going to lead to T.R.S.
 R: there's three way goes - go to T.R.S. - there are three T.R.S.
 S: okay just choose one way that's going to take you to T.R.S.
 - if you have three ways just choose one

Extract 17

Arbitrary solution. A third non-negotiating strategy used by Senders to solve the referential problems is what is called the "arbitrary solution." The basic feature of this type of solution is the arbitrary choice, by the Sender, of some route or location, without benefit of any defining referent from the Receiver. Upon encountering the same problem represented in extract 17, the Sender in extract 18 decides on a route himself, with only a cursory attempt to find out what the Receiver's world of reference is.

- S: come down a little bit - do you see any T.R.S.?
 R: yeah
 S: T.R.S.

- R: yeah three
- S: oh there are three T.R.S.?
- R: T.R.S. - T.R.S. - T.R.S.
- S: okay then you do one thing - just below that T.R.S. is there any Normalizer?
- R: yeah
- S: okay remember one thing - you say there are three T.R.S. - okay so you go to the middle T.R.S.

Extract 18

Although the Sender has made a choice and directed the Receiver to a specific component, in this case, as in most cases of arbitrary solutions, the identified destination is, in fact, the wrong component. In extract 19, from the Map 1 task, the Receiver explains that he has three Offices where the Sender has only one. Rather than trying to find out something about where the Receiver's Offices are, the Sender simply chooses an Office to which the Receiver must go.

- S: okay - do you have an Office on your map?
- R: Office yeah
- S: Office
- R: many Office
- S: just - you have many Offices?
- R: yeah I have three Office and a one Post Office
- S: okay let's go to the Office first - the first Office

Extract 19

In the situation in extract 19, the Sender's directions are extremely ambiguous, because the Receiver could choose the "first" Office either to his left or his right. In either case it would be the wrong location. Similarly, in extract 20 from the Map 2 task, the Receiver indicates that he has three Banks, but the Sender identifies one Bank as the location he should choose. That location, though evidently chosen with some care, is both arbitrary and inaccurate.

R: I first went to the Bank which is on the right side?

S: okay I've got it - you go to the Bank which is situated towards the left side corner that's it

R: not the right?

S: no you go to the Bank which is to your left

R: okay

Extract 20

The one feature which the three categories labeled "Unacknowledged Problem," "Abandon Responsibility," and "Arbitrary Solution" have in common is the failure by the Sender to enter into any discussion or negotiation with the Receiver in order to take the Receiver's world of reference into consideration. The result is an inaccurate solution to the referential problems encountered, according to the Sender's reference points. The Senders seem to be unwilling to negotiate with the Receivers to determine the best method of reconciling the differences in their worlds of reference. Instead of a two-way exchange of information between the

participants, a one-way transfer of information occurs from the Sender to the Receiver, with no evidence of negotiation.

Negotiated Solutions

Negotiated solutions are characterized by the presence of discussion and questioning, usually initiated by the Sender. The discourse contains contributions by the Receiver and acknowledgements from the Sender, demonstrating a willingness by the Sender to consider other points of reference besides his/her own. The discussions are frequently lengthy, and the Receiver contributes much more to the conversation than in any of the non-negotiated solution types. The Sender often invites the Receiver to reveal any information which might be relevant to the solution of the problem. The Sender takes the Receiver's world into consideration during the negotiation, although the final outcome may represent a decision by the Sender to disregard pertinent information offered by the Receiver. The ultimate decision, made by the Sender, determines the analytic category to which the negotiation is applied.

Unlike the examples in the preceding section, the extracts which follow illustrate instances where the referential problems become the focus of a discussion between both participants, and the negotiation leads to some kind of solution. The most notable feature of these interactions is the extent to which the Sender takes the nature of the Receiver's world of reference into consideration when deciding on a final solution to the problems. Two main types of solutions fall under this category: One in which the Sender's world is the focus of the solution and one in which the focus is the Receiver's world.

Receiver's World solution. In extract 21 from the Map 1 task, once the Sender determines that the Receiver does not have Hats on his map, the

Sender initiates a discussion of what the Receiver does have, in terms of a specific location on the Receiver's map.

- S: you have to go to the Hats store
- R: Hats?
- S: Hats - where it's marked Hats - the store where they sell Hats -
from the Record store
- R: from record store to -
- S: to the Hats - straight straight on
- R: straight to?
- S: Hats - don't you see that?
- R: no - I have no Hats store here
- S: see the Hats located left left on the left hand side of the Records
store
- R: hm?
- S: have you found it?
- R: no - there's no Hat store here - and above the Records store is the
Restaurant
- S: the Restaurant yeah and below the School what do you have?
- R: below the School? Bicycles
- S: pardon?
- R: Bicycles
- S: Bicycles?
- R: below the School
- S: okay you go to that place
- R: go to Bicycles?

- S: okay
- R: okay and I from Records
- S: from Records you go to the Bicycles

Extract 21

In this interaction, the Sender uses referents that both participants share (School, Records, and Restaurant) to determine what the Receiver has in his world. Once he discovers that Bicycles is in the same location where he has Hats, the Sender tells the Receiver to go to that place. In the final line of extract 21, he uses the Receiver's label to describe that location. This is a clear example of a Receiver's world solution to the referential problem.

Extract 22 from the Map 2 task also illustrates how the Sender asks the Receiver what he has in a location, then repeatedly makes use of the Receiver's label for that location to direct him to it.

- S: can you see a Magazines and Restaurant?
- R: no - on the left side Magazines and Photographer - and the right side is Restaurant and Doctor
- S: fine now on the left hand side what did you say there was?
- R: which one do I visit?
- S: Magazines and ?
- R: yeah Magazines
- S: and what was the other thing?
- R: Photographer
- S: okay go to the Photographer - the Photographer is above Magazines?

- R: yeah - will I first visit the Photographer?
 S: okay go to the Photographer - you visit only the Photographer
 R: yeah yeah
 S: the Photographer is above the Magazines - correct?
 R: yeah

Extract 22

In extract 23, also from the Map 2 task, once the Sender realizes that a referential conflict exists, he immediately begins to ask about the Receiver's world.

- S: when you are coming down in that block is there a - a -
 something called as a Shoe?
 R: Shoe?
 S: Shoes or any other name?
 R: Shoes?
 S: if Shoes is not there you have any other name? after you come
 down from Motel - first one on your right?
 R: right?
 S: first entrance on your right
 R: Bookstore
 S: Bookstore? okay you go to that
 R: oh okay
 S: from Bookstore you come out and down

Extract 23

This Sender attempts to take the Receiver's perspective when he directs him from their previous location, and once the Sender identifies the location on the Receiver's map, he begins to use that label (Bookstore), even though Bookstore does not exist on the Sender's map.

The success of this interaction is based on the willingness of the Sender to involve the Receiver in the resolution of the conflict and to adopt the Receiver's perspective when deciding on a label for the location. The same process is evident in extract 24 from the Map 1 task, where the Sender borrows the label "Doctor" from the Receiver's world, having negotiated a solution to the initial referential problem.

- S: below the Motel you should have one Dentist - you don't have a Dentist there?
- R: I have a Doctor
- S: below the Motel
- R: yes below the Motel
- S: you have a Doctor
- R: it's extremely south
- S: yeah exactly
- R: there's not a Dentist there's a Doctor
- S: oh okay you make one delivery there - to the Doctor

Extract 24

This type of "Receiver's World Solution" is also found in the Circuit Diagram task. In extract 25 the Sender questions the Receiver about the labels of three components which on the Sender's diagram are called RD, SMU

Unit, and S2. The Sender identifies the components which differ and then refers to that component by the Receiver's label.

S: okay after Power System now go straight north
 R: straight north?
 S: to SMU Unit
 R: RED Unit I just -
 S: okay what are your three units called?
 R: what's that?
 S: there are three units in parallel - three small units - one is
 RD
 R: RED Unit
 S: what's?
 R: RD, RED, and S2
 S: okay go to RED Unit
 R: RED Unit
 S: yeah
 R: okay

Extract 25

Another example from the Circuit Diagram shows the Sender acknowledging information from the Receiver, in extract 26, and then using the referential label which fits the Receiver's world.

S: there's a line going out from Analyzer to J-2
 R: J-2 ?

- S: J-2 there's a block known as J-2 J dash two and it is connected to the Analyzer
- R: you can see - you can see- there is no K-4 ?
- S: well I guess so J-2 and K-4 are the same then
- R: oh that means there are arrows to ?
- S: there is one arrow from Analyzer to K-4
- R: oh

Extract 26

Sender's World solution. In addition to the negotiated solutions illustrated in extracts 21 through 26 above, interactions occurred where negotiation resulted in a very different kind of solution. The following extracts illustrate instances in which the Sender's world became the focus of the discussion and the basis for the final outcome. Extract 27 from the Diagram task illustrates the same problem encountered in extract 26, but with a very different solution.

- R: that's K-4 between the Sensor and the Analyzer
- S: oh you have a block
- R: yeah
- S: and it's named K-4?
- R: K-4
- S: K-4 - okay that - that should be J-2 not K-4
- R: oh so I mark J-2 here?
- S: yeah

Extract 27

In extract 27, when the Receiver has indicated that he cannot go to what the Sender calls J-2, the Sender imposes his own referential label onto the Receiver's world, forcing the Receiver to change his diagram to match the Sender's. Similarly, in extract 28, the Sender recognizes that discrepancies exist between his world and the Receiver's. However, rather than trying to find a solution using the Receiver's world as a reference, the Sender directs the Receiver to change the configuration of his diagram to fit the Sender's model.

- S: now come out from Sensor on the left side of the map go to TRS
 R: yeah
 S: go to TRS
 R: which TRS?
 S: there is only one TRS
 R: I have three
 S: you have three? so cancel two of the TRS
 R: okay
 S: there is only one TRS
 R: okay

Extract 28

In extract 28, the Sender not only fails to attribute much importance to the Receiver's world, he acts as though there is only one world to consider - his own. The Sender's declarations that there is only one TRS leave no room for dispute from the Receiver. These kinds of solutions appear very rarely in the Map 1 and Map 2 tasks, though occasionally they are found when

attempts at negotiation have reached a dead end. In extract 29 from the Map 1 task, the Sender tries at some length to get the Receiver to find the place labeled "Hats" (from the Sender's map), but does not accept the Receiver's alternative label for the location.

- S: you go to the Hats - Hat is right in front of the School
- R: no I don't have Hats
- S: Hats or the caps - you don't have the caps? see you have the Church and right in front of the Church you have the Hats
- R: no I don't have - I just have Bicycles
- S: you have the school ? right at the top?
- R: yes
- S: right in front of the School - right below the School you have Hats - did you see it?
- R: no there is no Hats
- S: all right what are we supposed to do now? okay you go to the block in front of School - that's it - you have a block in front of School?
- R: mm blockin?
- S: block in front of the School
- R: front of School
- S: okay you have the School right?
- R: yeah
- S: from the School you go to the Records
- R: yeah
- S: from the Records you go down

- R: mm hm
- S: you don't have Hats over there?
- R: no
- S: what are we supposed to do now? let's think of this
- R: where is your - your Hats?
- S: Hats is right in front of the School - the block in front of the School
- R: no there's not - let me see
- S: we'll have to go to the block in front of the School
- R: okay block in front of School
- S: what's that on your list? Hats?
- R: Bicycles
- S: okay this is outdated version so it's Hats now
- R: mm hm
- S: okay - from the Hats you go to Office

Extract 29

Using the Sender's World label as a solution to the referential conflict is generally more common in the Circuit Diagram task and, in some cases, leads to more than just requiring a change in label. In extract 30, after the disparity between the Sender's "J-2" and the Receiver's "K-4" has been recognized, the Sender adopts a rather extreme "Sender's World Solution" to the problem.

- S: there is just a very small box to the north of - have you found the Analyzer?

R: K-4 - I found the K-4 and Regulator
S: okay okay I got it - you found the Regulator right?
R: the Regulator yeah
S: don't go to the Regulator
R: yeah don't go to Regulator
S: no - from the Analyzer - you are at the Analyzer right?
R: yeah
S: you go north
R: go north?
S: yes about one inches one inch north
R: one inch
S: yeah and then you draw a small box
R: yeah?
S: and call it J-2 - J dash two
R: no J-2 in mine
S: you - you will draw it - you will draw it okay?
R: write down?
S: yeah you will write it down
R: J-2

Extract 30

In the above illustration, the Sender has the Receiver change his world physically to match the Sender's directions. Although there was a great deal of negotiation in extracts 29 and 30, there is the impression that the Senders are more interested in imposing their own perspectives on the Receivers than trying to arrive at a solution which takes the Receivers' referents into

consideration. In terms of communicative effectiveness, such solutions are less successful than those described as “Receiver’s World” solutions. Having the Receiver add a component to his diagram, as in extract 30, when a common component with a different label already exists, seems to indicate a reluctance on the part of the Sender to make what he knows about his own world fit concordantly with what the Receiver knows. The Sender apparently is more interested in telling the Receiver how things are (on the Sender’s diagram) than in finding out what referents they may share. From the standpoint of communication skills, this lack of a cooperative attitude seriously impedes successful interaction.

Although subjects occasionally employed more than one tactic in the resolution of the referential conflicts, only the final outcomes of the solutions were analyzed. For example, a Sender might initially seem to wish to ‘abandon’ any attempt at solving a problem, then reconsider and arrive at an ‘arbitrary’ solution. In that case, the ‘arbitrary’ solution would be counted in the analysis. For example, in extract 31 from the Diagram task, the Sender decides on some arbitrary location (so you go to the middle T.R.S.), then later seems to abandon his responsibility for locating the correct component (you take any of the T.R.S.). The Sender then returns to his original decision to arbitrarily choose a path (then you take the middle one). Few instances of such indecisiveness were apparent in the data. In most cases, the Senders decided on a plan of action and adhered to it.

- S: there are three T.R.S. side by side okay so you go to the middle
 T.R.S. - you go to the T.R.S. - just a minute you listen to me
 R: T-R- ?

S: there must be a - three T.R.S.okay?

R: T.R.S. yeah

S: three T.R.S. from one of those T.R.S one route you are going to Normalizer

R: yeah yeah yeah

S: so -

R: I have to find the route

S: yeah you take -

R: there are three route

S: yeah you take any of the T.R.S. - from each the road goes to Normalizer - if from one T.R.S. the road goes to Normalizer then you take the middle one okay?

R: okay

Extract 31

In a similar situation, the Sender in extract 32 appears to be abandoning the "J-2" vs. "K-4" problem (so forget K-4), then apparently reconsiders and instructs the Receiver to take an arbitrary route (go into Regulator).

S: from the Analyzer you go up until J-2

R: until - from Analyzer go up until?

S: what is your next stop from Analyzer?

R: from Analyzer?

S: yes

R: I don't know

S: what do you have written there?

R: K-4
 S: K-4
 R: yeah K-4
 S: okay so forget K-4 - just keep walking
 R: Regulator?
 S: no no
 R: pass the - okay
 S: no okay from Regulator okay let's go let's go back to Analyzer
 R: okay okay
 S: get -
 R: take the Regulator way right?
 S: yes and go into the Regulator
 R: okay

Extract 32

When all the data were collected, they were quantified according to solution type, task, and condition. The frequencies were then tabulated to determine any patterns, similarities, or differences among the negotiated and non-negotiated solutions and within those two categories. In addition, solutions in Condition I, with the referential intervention, were compared to solutions in Condition II, in which the linguistic intervention occurred. Conditions I and II were also compared to Condition III in which no intervention occurred. Finally, the baseline data for the Diagram task in Condition IV were compared to performance on the Diagram task in the other three conditions. A description of that data follows in Chapter 4. Chapter 5 contains a discussion of the findings and other related information.

Footnotes

¹ Although there were four subjects from Taiwan, three reported a native language of Taiwanese, and one declared his first language to be Chinese.

² Due primarily to the time constraints imposed, individual differences among subjects and problems with basic communication, some of the referential problems were never encountered by some pairs before time expired. For the purposes of this analysis, those instances have been included in the "No Problem" category because there was no interaction relative to the solution of a problem.

³ Portions of transcriptions which clearly illustrated the categories of analysis were randomly chosen for inclusion in this chapter. Although it was not intentional, only male Senders and Receivers were included in the extracts. Therefore, the use of "he" throughout the description of the examples is not a sexist point of view, but a true representation of the speaker's gender.

CHAPTER FOUR

Results

The primary objective of this study was to investigate the effect of the intervention events in Conditions I, II, and III on communicative behavior of the participants. As there was no intervening discussion between the Map 1 and Map 2 tasks in Condition III, that condition is indicative of how subjects performed as a result of having had the opportunity only to repeat the tasks. Condition IV provides baseline data for performance on the Diagram task. The communicative performance of the Sender in each pair was the focus of analysis.

Analysis by Solution

Each group of subjects in this study had opportunities to resolve a total of 20 conflicts for each task. That is, five Senders performed each task one time with five different Receivers for each task. Each task presented four opportunities to solve a problem. The solutions to each of the four referential problems in the 50 recorded interactions are categorized in Table 3. That table will be described in the next six sections, using the figures for each solution type within each condition.

No Problem

In Condition I there was very little difference in the frequency of No Problem (NP) solutions among the tasks. However, in Condition II this type of solution decreased from Map 1 (7) to Map 2 (3) to the Diagram (2). In Condition III, a relatively large number of NP solutions in the Map 1 task (9) increased slightly in Map 2 (10), and then decreased dramatically in the Diagram task (2). The baseline data in the Condition IV Diagram task

Table 3
Types of Solutions by Condition and Task

Condition	Task	Non-negotiated				Negotiated	
		No Problem	Unacknowledged	Abandoned	Arbitrary	Sender's World	Receiver's World
I	Map 1	4	2	2	5	1	6
	Map 2	5	2	4	2	0	7
	Diagram	5	0	2	4	0	9
II	Map 1	7	0	3	4	1	5
	Map 2	3	1	4	3	3	6
	Diagram	2	1	2	1	10	4
III	Map 1	9	2	3	2	0	4
	Map 2	10	0	0	2	1	7
	Diagram	2	2	3	2	5	6
IV	Diagram	6	2	1	1	6	4
	Total	51	12	24	26	27	58

contained a slightly higher number of NP solutions (6) than the Diagram task in Condition I (5), and there were three times as many as in Conditions II (2) and III (2). Keeping in mind that this category represents non-recognition of a problem as well as a failure to encounter a problem, the lack of a significant pattern across tasks or across conditions was not unexpected.

Although a failure to recognize that a problem existed is in itself a type of behavior, this study investigated only the communicative behavior of pairs of subjects where at least one member of the pair demonstrated an awareness of a referential problem. Therefore, the No Problem category was excluded from the analysis of solution types.

Unacknowledged Problem

The three categories of “Unacknowledged Problem” (UP), “Abandoned Responsibility” (AR), and “Arbitrary Solution” (AS) were collapsed under the heading of Non-negotiated solutions. It is worthwhile, however, to examine performances within the three sub-categories. In Condition I, the number of UP solutions remained the same, at 2 each in the Map 1 and Map 2 tasks. In Condition II, the UP solution was not evident in the Map 1 task, but it was used once in the Map 2 task. On the other hand, in Condition III where there was no intervention, the number of UP solutions decreased from 2 in the Map 1 task to zero in the Map 2 task.

The observed frequencies of this solution in the Diagram tasks showed a rather different pattern. In Condition I (i.e., the ‘referential condition’), existence of the UP dropped to zero, and in the second (i.e., the ‘linguistic condition’) the frequency remained at 1, as in the Map 2 task. However, in Condition III, where there was no intervention, the number returned to the same level as for the Map 1 task, with 2 solutions of this type. Performance in

Condition IV, where there was neither practice nor intervention, corresponded to that in Condition III.

Abandoned responsibility

This solution was chosen at least twice in all of the Map 1 tasks for all three conditions. In Condition I, it was chosen 2 times, and in Conditions II and III, it was chosen 3 times. AR became more prevalent in the Map 2 tasks in both Conditions I and II (at 4 each), but in Condition III, it decreased to zero in the Map 2 performance. Performance on the Diagram in Conditions I and II showed an identical decrease after the initial increase on Map 2; from 4 to 2 in both instances. In contrast, in Condition III, subjects abandoned responsibility for solving a problem at the same rate (3 times) as they had in the Map 1 task, after failing to use that solution at all in Map 2. The lowest incidence of AR solutions occurred in Condition IV, with only 1.

Arbitrary Solution

Making an arbitrary decision about solutions to the problems encountered in Map 1 occurred at nearly the same frequency in Conditions I and II (5 and 4 respectively). That pattern began to change in the Map 2 tasks in those two conditions, with Condition I showing a decrease from 5 AS types to only 2 instances, and Condition II showing only a slight decrease from 4 to 3. That trend toward fewer AS types continued to the Diagram task in Condition II, but in Condition I the Diagram task showed an increase in the frequency of AS, almost reaching the same level as in the Map 1 task. Condition III was clearly different from Conditions I and II, for no change in frequency of preference for this type of solution occurred. The number remained at 2 in all three tasks. Condition IV compared with Condition II with regard to AS solutions, with only 1 example present.

Sender's World

With regard to the first type of negotiated solution, one can observe a decrease in Condition I, from 1 SW in Map 1 to zero in both Map 2 and the Diagram. In Condition II, the numbers increased from 1 in the Map 1 task, to 3 in Map 2, and to 10, a larger increase, in the Diagram. Condition III showed a lack of SW solutions in Map 1, an increase to 1 in the Map 2 task, and more of an increase, to 5, on the Diagram task. Condition IV was most similar to Condition III, with only 1 solution separating the two. In contrast, the figures in Conditions I and II reflected a wide difference in preference for this solution, compared to Condition IV.

Receiver's World

The second type of negotiated solution had a quite different pattern of occurrence from the first type. The frequency of RW solutions increased steadily from the first to the third task. In Map 1, 6 instances of RW solutions occurred. Those 6 solutions increased to 7 in Map 2, and further increased to 9 on the Diagram task. This trend was not followed in Condition II: Where Map 1 had 5 examples of RW, Map 2 increased slightly to 6, and the Diagram numbers dropped below either of the preceding cases, to 4. The largest increase in frequency of RW solutions took place between Map 1 and Map 2 in Condition III. The 4 cases of RW in Map 1 increased to 7 in Map 2 and then decreased slightly, to 6, on the Diagram task. The Condition IV figures were identical to Condition II, with 4 RW solutions each. Condition III reflected a similarity to Condition IV, with 6 cases of RW; but there was a noticeable difference between Conditions I and IV, with Condition I showing the highest number of RW solutions of any of the other four conditions.

Analysis by Condition

The performance of subjects on the tasks within each condition was examined to determine the effect of the different intervention events and, in the case of Condition IV, the effect of having had no practice performing any task. The frequencies represented in Table 3 have been separated according to condition and appear in this section.

Condition I Solutions

Table 4 illustrates the frequency of solution types in Condition I. The following description focuses only on the Non-negotiated and Negotiated categories of solution types. Looking across solution types for the Map 1 task, one notices that 2 instances of both UP and AR solution types occurred,

Table 4
Condition I Solutions

Condition	Task	No Problem	Unacknowledged	<u>Non-negotiated</u>		<u>Negotiated</u>	
				Abandoned	Arbitrary	Sender's World	Receiver's World
I	Map 1	4	2	2	5	1	6
	Map 2	5	2	4	2	0	7
	Diagram	5	0	2	4	0	9

while 5 AS solution types were present. Within the negotiated solution types, only 1 instance of a SW occurred, with the majority of solutions being of the RW type. In fact, in this task there were more RW solutions than any

other type of solution. In the Map 2 task, immediately following the referential intervention, the same number of UP solutions occurred as in the Map 1 task, but twice as many instances of AR solutions (4) were in evidence. The amount of AS solution types decreased noticeably, with only 2 occurring in this task. As was seen in the Map 1 task, considerably more RW solution types (7) were found than SW solutions. Indeed, in this second map task no SW solution types were chosen by the Senders. In the Diagram Task, no instances of UP solution types were found, only 2 AR, and 4 AS solution types within the Non-negotiated category. In the negotiated category, all (9) solutions were of the RW type, similar to the pattern of results for this same condition on the Map 2 task.

Condition II Solutions

Table 5 presents the results for all three tasks in Condition II. Map 1 had no instances of UP solutions, 3 instances of AR solutions, and 4 occurrences of AS solution types. In the negotiated solutions category, 1 SW solution and 5 RW solutions were observed. In the map task immediately following the linguistic intervention, 1 UP solution, 4 AR solutions, and 3 AS solutions were found. The number of RW solutions in the Map 2 task (6) was very close to that for the Map 1 task, while the SW solutions increased from 1 in Map 1 to 3 in Map 2. Considerably fewer Non-negotiated solutions for the Diagram task were in evidence than for either of the preceding tasks in this condition - 1 UP solution, 2 AR solutions and 1 AS solution. In contrast, the Negotiated solutions outnumbered those for the two map tasks. Indeed, the greatest number of solutions in this category were found in this condition. The 4 RW solutions differed little from the numbers of this type

Table 5
Condition II Solutions

<u>Condition</u>	<u>Task</u>	<u>No</u> <u>Problem</u>	<u>Unac-</u> <u>knowledge</u>	<u>Non-negotiated</u>		<u>Negotiated</u>	
				<u>Abandoned</u>	<u>Arbitrary</u>	<u>Sender's</u> <u>World</u>	<u>Receiver's</u> <u>World</u>
II	Map1	7	0	3	4	1	5
	Map2	3	1	4	3	3	6
	Diagram	2	1	2	1	10	4

of solution in the two preceding map tasks. However, a dramatic increase in the number of SW solutions took place, with 10 in the Diagram task, compared to 1 in Map 1 and 3 in Map 2.

Condition III Solutions

The figures for Condition III solutions are shown in Table 6. The number of AR solutions (2) was the same as AS solution types, while there were 3 AR solutions. No SW solution types were found for this task, but there were four RW solutions. The only solutions in the non-negotiated category in the Map 2 task were 2 Arbitrary solutions, compared with a total of 8 negotiated solutions - 1 SW and 7 RW. In the Diagram task, the pattern of non-negotiated solutions mirrors that of the Map 1 task in this condition, with 2 UP and AS solutions and 3 AR solutions. A greater number of negotiated solutions occurred for this task, but very little difference was found

Table 6
Condition III Solutions

Condition Task	No Problem	Unacknowledged	<u>Non-negotiated</u>		<u>Negotiated</u>	
			Abandoned	Arbitrary	Sender's World	Receiver's World
III Map1	9	2	3	2	0	4
Map 2	10	0	0	2	1	7
Diagram	2	2	3	2	5	6

between the number of SW solutions (5) and RW solutions (6).

Condition IV Solutions

Condition IV results, the baseline data for the Diagram task, are represented in Table 7. The three solution types within the Non-negotiated category were used considerably less frequently than those in the Negotiated category. Two UP solutions occurred, and 1 each of the AR and AS solution types were found. SW solutions appeared 6 times and RW solutions 4 times.

Table 7
Condition IV Solutions

Condition Task	No Problem	Unacknowledged	<u>Non-negotiated</u>		<u>Negotiated</u>	
			Abandoned	Arbitrary	Sender's World	Receiver's World
IV Diagram	6	2	1	1	6	4

Ratios of Solutions

In Table 8, the three solutions within the non-negotiated category have been collapsed, with the figures representing ratios of the total of all three solution types. Similarly, the two solution types within the negotiated category were combined and those figures are represented in the same manner. For each task the ratio represents the actual occurrence of solutions in a category, out of a possible 20. The frequencies of Negotiated vs. Non-negotiated solutions under all four conditions were analyzed, using Chi Square, and no statistically significant difference was found between the two solution types in any of the cells.

Condition I

The relationship between Non-negotiated and Negotiated solutions in Condition I was unremarkable. Excluding the No Problem category, for reasons previously mentioned, the largest interval for any task was 15 percentage points on the Diagram task, with 30% Non-negotiated solutions and 45% Negotiated solutions. Negotiated and Non-negotiated solutions to Map 1 problems differed by 10%, and by 5% in Map 2, with more Non-negotiated solutions in each case.

Condition II

In Condition II, the only sizable difference was found on the Diagram task, with 20% Non-negotiated solutions in contrast to 70% Negotiated solutions. The Map 1 task showed a slight preference for Non-negotiated solutions (35%) over Negotiated solution types (30%). The Map 2 task also showed a small difference between Negotiated and Non-negotiated solution types, but the difference was in the opposite direction, with 40% Non-negotiated and 45% Negotiated solution types.

Table 8
Ratio of Solution Type by Condition and Task

<u>Condition</u>	<u>Task</u>	<u>No Problem</u>	<u>Non-negotiated</u>	<u>Negotiated</u>
I	Map1	20%	45%	35%
	Map2	25%	40%	35%
	Diagram	25%	30%	45%
II	Map1	35%	35%	30%
	Map2	15%	40%	45%
	Diagram	10%	20%	70%
III	Map1	45%	35%	20%
	Map2	50%	10%	40%
	Diagram	10%	35%	55%
IV	Diagram	30%	20%	50%

Conditions III and IV

Condition III figures exhibited the greatest amount of variation toward both Negotiated and Non-negotiated solutions. In Map 1, 15% more Non-negotiated solutions occurred (35%) than Negotiated ones (20%). The tendency toward Negotiated solutions (40%) was greater than Non-negotiated solutions (10%) in the Map 2 task. This tendency persisted to the Diagram task where there were 35% Non-negotiated solutions but 55% Negotiated solution types. The baseline condition (IV) showed this same strong tendency with 20% Non-negotiated and 50% Negotiated solutions.

Negotiated Solutions

As the aim of the series of tasks was to examine the communicative effectiveness of the participants, and because negotiation is considered to be indicative of greater communicative effectiveness, it is worthwhile to look more closely at the Negotiated solution category. Table 9 displays the figures for Sender's World and Receiver's World solutions within the Negotiated solution category.

Condition I

The pattern for the two solution types in Condition I showed the greatest difference between RW and SW in the Diagram task, where 45% of the solutions were RW and none were SW. Indeed, Chi Square procedure confirmed that observation. The Diagram frequencies (raw data in Table 4) of SW versus RW negotiated solutions, under all four conditions, were analyzed (2×4) and yielded $\chi^2 = 12.02$; $df = 3$; $p < .01$. Post hoc analysis using Standardized Residuals indicated that only the Condition I cell accounted for the significance. This result was somewhat similar to the Map 2 task, with no SW solution types and 35% RW solutions; however, the difference between

Table 9
Ratio of Negotiated Solutions by Condition and Task

<u>Condition</u>	<u>Task</u>	<u>Negotiated Solutions</u>	
		<u>Sender's World</u>	<u>Receiver's World</u>
I	Map 1	5%	30%
	<u>Referential Intervention</u>		
	Map 2	0	35%
	Diagram	0	45%
II	Map 1	5%	25%
	<u>Linguistic Intervention</u>		
	Map 2	15%	30%
	Diagram	50%	20%
III	Map 1	0	20%
	<u>No Intervention</u>		
	Map 2	5%	35%
	Diagram	25%	30%
IV	Diagram	30%	20%

SW and RW solutions was not statistically significant. The figures for the first map task in this condition showed that 35% of the chosen solutions were RW and 5% were SW.

Condition II

In Condition II the same trend continued as in Condition I for the Map 1 task, with 25% of solutions RW and 5% SW. That pattern began to change with the Map 2 task, where 30% of solution types were RW, and the SW solutions increased to 15%. The most change occurred in the Diagram task, however, with 20% of the solutions RW and 50% SW solution types.

Condition III

The interval between the figures in the Map 1 task in Condition III was similar to that for the same task in Conditions I and II, with 20% RW and zero SW. In Map 2 the greater RW solutions continued, with 35%, while 5% of the solutions were SW. There was a levelling off of the two solution types on the Diagram task, where 30% were RW and 25% were SW, a smaller interval than in any of the other conditions.

Condition IV

The baseline data in Condition IV exhibited a slightly different direction in the relationship between RW and SW solutions, with 20% RW and 30% SW, but the numerical difference between the two was similar to that of the Diagram task in Condition III.

The Effect of Practice on the Diagram Task

An examination of the data from the Diagram tasks revealed no strong evidence that practice on the Map tasks influenced subjects to choose Negotiated rather than Non-negotiated solutions on the Diagram task. Negotiated solutions outnumbered non-negotiated solutions in all four

conditions, including the baseline condition where subjects had no previous experience on any task. Condition II revealed the largest difference (50 percentage points) between the two broad solution types, while Condition I showed the smallest difference (15 percentage points). Conditions III and IV were very similar, with differences of 20 and 30 percentage points respectively.

Summary

The results described in the preceding sections were a consequence of the interaction among task type, research design, subject sample, and other variables, some of which could not be controlled in this setting. The raw data in Tables 3 through 7 were gathered by counting each appearance of the solution types for each task within all four conditions. The percentages in Tables 8 and 9 simply display the same data in ratio form. The extremely small numbers in most of the solution categories made further statistical measures unnecessary. The difference between 1 and 2 or between 35% and 45% is obviously very small and needs no statistical analysis. In the two instances where larger differences existed or the possibility of statistical significance was observed, appropriate measures were taken to analyze and report those results. A discussion of the results as well as implications and suggestions for further research follow in Chapter 5.

CHAPTER FIVE

Conclusion

General Discussion

This study was concerned with the performance of a specialized population of advanced ESL learners on interactive tasks designed to investigate the benefit of certain task conditions and the effect of different intervention events on second language communication skills. As can be seen from the review of the current literature, it is a commonly held belief that situations in which learners are arranged in small groups or pairs provide more opportunities for practicing the target language (Long & Porter, 1985; Pica & Doughty, 1985a, 1985b). Group work also seems to help individualize instruction, promote a more positive affective climate, and motivate learners (Long & Porter, 1985).

Further, it has been determined that two-way tasks, where there is an exchange of information between two speakers, are more beneficial to SLA than one-way information-transfer tasks (Doughty & Pica, 1986; Long, 1981). Where the exchange of information is required rather than optional, more negotiation of meaning occurs, and acquisition of the target language is enhanced (Pica & Doughty, 1988). Moreover, when the task type involves convergent, problem-solving activities rather than divergent, debate-style activities, there is a greater incidence of the kind of interaction associated with the production of comprehensible input, increasing the possibility for acquisition of new structures in the second language (Duff, 1986).

The effect of familiarity also appears to be a factor in the comprehensibility of non-native speech to native speakers. Unfamiliarity

with interlocutor, task type, topic, and non-native speech contributes to the amount of NS speech modification available to the NNS, which may improve the comprehensibility of the input to the NNS and allow for greater negotiation of meaning (Gass & Varonis, 1984). Finally, it has generally been established that more negotiation of meaning occurs in NNS-NNS pairs than in pairs that include native speakers (Varonis & Gass, 1985; Porter, 1986).

The current study was not designed to investigate the rate or sequence of acquisition of English by advanced learners. It makes no claims about the effectiveness of tasks, materials, or instruction in the realm of SLA. However, this study does examine the communicative effectiveness of learners of English as a second language. Moreover, if effective communication is recognized as an important aspect of language use, and if language use is indicative in some way of success of acquisition of language, then a study such as this one can be said to have relevance in the field of SLA.

Most of the previous studies have focused their attention exclusively on what learners say in certain situations under particular conditions. Thus far, the analyses have reflected an attention to vocabulary, syntax, length of utterance, complexity of utterance, conversational adjustments, turn-taking, and affective and other discourse factors relating to learner speech. What has not been evident is an investigation of what learners mean when they say what they do, how effective their communication skills are, what effect instructional materials have on those skills, and what students learn as a result of the materials.

Research Questions

It was partially in reaction to the gap in knowledge described above that I undertook to test, in a very narrow domain, the effects of particular

interventions on the communicative performance of L2 learners on a particular task type. Within the confines of the research design which I have described, I addressed three research questions. On a general level relating to task type and population, I attempted to answer the following:

- (1) Is a task type that (a) creates conflict and (b) requires an exchange of information effective in developing communicative effectiveness in advanced ESL learners?

The specific research questions which were answered within the framework of the data analysis focused on the variation in the learners' communicative behavior on information-exchange tasks subsequent to different intervention events. Those questions were:

- (2) Do different intervention events (i.e., world of reference vs. linguistic form vs. no intervention) using this task type differentially affect communicative behavior?
- (3) Do the effects of practice using this task type and different intervention events vary according to the materials used (i.e., map only, map and diagram, diagram only)?

Task Type Effect

With regard to question 1, the results present overwhelming evidence that the kinds of conflict created by the referential problems found in the Map tasks and the Diagram task lead most learners to negotiate meaning and reference. The negotiation of meaning and reference is recognized throughout L2 literature as a key indicator of communicative effectiveness. Although not all subjects negotiate solutions to all problems or in the same manner, instances of negotiation exist for at least some of the problems by all subjects in each of the four conditions. Furthermore, in the process of

negotiating the conflicting worlds of reference, the subjects exhibit behavior indicative of the negotiation of meaning as well. For example, in Extract 14 (p. 89), the Receiver first makes sure that he understands the lexical item, Hats, before he can determine if he has that location on his map. Evidence of this kind of negotiation can be found throughout the interactions for all groups of subjects.

The results of the study indicate that the answer to the second part (b) of Research Question 1 may depend on several factors. First, if the focus of the Sender is on a two-way exchange of information rather than simply a one-way transfer of information, then the tasks can be very effective. On the other hand, as was evident from the outcome of the two different intervention events, how the Sender is prepared to perform the task will often determine how the task is perceived by the Sender and, therefore, how the task is performed. If the task is intended to be a learning event, the mode of instruction and preparation by the teacher will have a powerful effect on the usefulness of the task. Clearly, if the purpose of the task is to help students develop communicative effectiveness, then their attention should be focused on the collaborative exchange of information. The tasks were designed as vehicles for the promotion of communication between the participants, and the maps and diagram proved to be quite effective in that regard. Furthermore, as an added benefit, the taped interactions indicate that the students in this study enjoyed the tasks (at least most of the time), and many of them indicated that they would like to do similar activities in their classes. It appears that engaging learners in activities which are interesting and challenging tends to increase the probability that those learners will take

the tasks seriously and demonstrate a willingness to perform as well as possible.

Intervention Effect

It is clearly the case that the kind of intervention experienced by the subjects after the first task has a powerful effect on their performance on subsequent tasks. The percentages in Table 10 indicate that, in Condition I, where the intervention has subjects focus their attention on the nature of the Receiver's problems, those Senders never employ a "Sender's World" solution in either of the subsequent tasks. As a result of being encouraged to take the needs of the Receivers into account, the Senders become more effective in communicating instructions, and the participants are more likely to successfully accomplish the goals of the tasks. In contrast to Condition I, the intervening discussion session in Condition II concentrates only on the Sender's performance. Although the materials were not designed or intended to prevent discussion of the Receiver's perspective, they contain only transcripts of the Sender's instructions or treatments of the referential problems, to the exclusion of the Receiver's world of reference. There are no transcriptions or portions of the map representing the Receiver's world. Consequently, the attention of the subjects taking part in this intervention is focused only on linguistic features of other Senders' speech, with the purpose of improving pronunciation, vocabulary, and grammar. The materials contain no evidence to indicate if the Receivers in these exchanges are having difficulties or making contributions to the conversation. Having been led to believe, perhaps, that the key to successfully completing the tasks is the manner in which Senders present information to the Receivers, subjects in

Condition II noticeably increase their use of Sender's World solutions in the Map 2 and Diagram tasks.

Interestingly, in both Conditions I and II, the strongest change in communicative behavior was apparent, not in the Map 2 tasks, but in the Diagram task. This is an indication, as Long (1988) has observed, that the effects of some instructional procedures may not be recognizable immediately. A similar phenomenon has been observed in a study (Macdonald, 1991) which examines the effect of pronunciation practice on subsequent oral production. Learners often exhibit a restructured effect, wherein their pronunciation, after certain kinds of practice, is first perceived to be less target-like before there is evidence of improvement.

Practice Effect

An obvious difference is apparent from Table 9 in Condition III between Negotiated and Non-negotiated solutions in the Map 1 and Map 2 performances. In fact, there is a reversal in the ratio of the two broad categories. In the Map 1 task, the number of Non-negotiated solutions is greater, while in the Map 2 task, Negotiated solutions are much more common. This phenomenon confirms a finding by Yule (in press) that Senders can become more likely to negotiate solutions to referential conflicts simply by having an opportunity to practice the task. Unfamiliarity with a task type (i.e., Map 1, Condition III) seems to result in a different kind of performance, in terms of Negotiated solutions, from that in which the task type is familiar (i.e., Map 2, Condition III).

Examination of performance on the Diagram task in each of the conditions reveals very little difference in the pattern of Negotiated vs. Non-negotiated solutions. That is, no strong evidence exists to demonstrate that

practice on a map task influences subjects to choose Negotiated solutions on a subsequent diagram task. One might conclude that, because the ratios of Negotiated to Non-negotiated solutions in Condition IV (baseline) and Condition II (linguistic intervention) are larger than in either of the other two conditions, practice on the map task with an intervening discussion about linguistic form and no practice on any kind of task have a stronger effect than practice with a referential intervention and practice with no intervention. However, closer examination of Condition III (no intervention) and Condition IV (baseline) reveals that these two conditions produce approximately the same effect. Therefore, it is clear that these data do not indicate that practice on one task type necessarily leads to a certain kind of behavior on a similar task type. In fact, it is the intervention type, and not practice, that most strongly influences communicative behavior on a subsequent task.

Summary

As noted previously, the pattern of change in Condition III, from Map 1 to Map 2 performances, is not found in Conditions I or II. The ratio of Negotiated to Non-negotiated solutions is almost the same, regardless of the kind of discussion that intervened. This similarity was an unexpected result, given that the discussion materials in Condition I were designed for the purpose of focusing subjects' attention specifically on the referential conflicts and possible ways to resolve them. One might have expected a very different and noticeable effect from that discussion on the Map 2 performance which would have distinguished it from the performance on Map 2 in Condition II, where the focus of the intervening discussion was exclusively on the form of the language used to perform the task. The fact that this difference does not

occur suggests that one cannot assume that providing certain types of 'treatments' will result in certain changes in communicative behavior, or that the change in behavior will be immediately recognizable. In fact, it can be said that the interventions in Conditions I and II have a negative effect, to the extent that they do not lead to a reduction in Non-negotiated solutions as found in Condition III.

In Condition III the number and types of Non-negotiated solutions to the Map 1 task are identical to those in the Diagram task, indicating perhaps a reaction to a first encounter with a particular task type. There is a noticeable absence of Unacknowledged Problem and Abandon Responsibility solutions in the Map 2 task, which is very similar in design to the first map task. However, when confronted with the third task, the Diagram, even though it is similar in type to the two map tasks, the subjects seem to react as though it is completely new, performing almost exactly as they had on the first map task.

It might have been expected that performances on the Map 2 and Diagram tasks by subjects in Conditions I and II would be characterized by a decrease in UP solutions simply as a consequence of having performed a task once and knowing from experience that problems do exist. In addition, it is in Conditions I and II that the interventions occur, consciously drawing students' attention to the fact that referential problems were found in previous tasks. However, there is no evidence to suggest that subjects are more likely to acknowledge the presence of problems in the second Map task. Furthermore, no trend is found toward more or less Abandoned Responsibility or Arbitrary solutions in either of these conditions. In fact, in

neither Condition I nor Condition II is there a discernible pattern of behavior in any one direction.

Conclusions

The one salient piece of evidence which points to a possible effect of the different interventions is found in Condition II in the Map 2 results. Examination of the Negotiated solutions to the referential problems in the Map 2 task in Condition II reveals a slight tendency to choose more Sender's World solutions than in any of the other Map 2 performances. This tendency becomes considerably more notable in the performance on the Diagram task. To understand the significance of this effect, it is necessary to examine the pattern of Negotiated solutions for the Diagram task under all four conditions. In Condition III, the control group, the number of SW and RW solutions are roughly the same. Further, in Condition IV, the baseline condition for the Diagram task, there is a slight tendency to favor SW solutions over RW solutions, but the difference is so slight that the two solutions might also be considered equivalent in likelihood of occurrence. Therefore, in the two conditions (i.e., III and IV) where no intervention event takes place at all before the Diagram task, the subjects show no strong preference in their negotiations for SW or RW solutions. In the Condition II Diagram task, however, a very noticeable preference for Sender's World is apparent. In Condition I the preference is completely opposite and exclusively in the direction of Receiver's World solutions.

It appears, therefore, that one possible consequence of the two interventions is that subjects are influenced to negotiate their solutions by reference to very different worlds. The Condition II intervention concentrates solely on the performance of the Sender. Although the

materials were not designed to forestall discussion of the Receiver's perspective, they contain only transcripts reflecting the Sender's point of view, without regard for the Receiver's referential world. This concentration on the Sender's performance results in a more egocentric perspective and a neglect of the Receiver's needs. For the subjects in Condition I, the preference for Receiver's World solutions seems logical. The intervening discussion centers around the Receiver's problems relative to the Sender's instructions, and their materials include versions of the Receivers' world (i.e., parts of the map). Having had their attention focused on the Receiver's world during the intervention discussion, the subjects in Condition I never undertake a Sender's World solution in the Map 2 task or the Diagram task.

The performance of Senders in Condition II, following the linguistic intervention, should make us as teachers more cautious in our assumptions that, if we provide instruction with a particular emphasis, then that emphasis is exactly what influences the learners. We should keep in mind that the kind of learning we intend students to experience through our instructional materials may not be matched by the kind of learning that actually takes place.

The results of this study strongly support the findings of the Long (1981) and Doughty and Pica (1986) studies which found that two-way tasks are effective for facilitating negotiation of meaning between L2 language learners. Additional evidence from the present research lends support to the claim by Pica and Doughty (1988) that a required, rather than an optional, information exchange creates a condition conducive to L2 communicative interaction. It was also found that learners who are paired with other learners who have different L1s, and who perform unfamiliar tasks rather than tasks they may have practiced, generally produce large amounts of

language characterized by negotiation. This finding is in agreement with the results obtained by Pica and Doughty (1985) and Gass and Varonis (1984, 1985). It is generally accepted that NNS/NNS pair work creates many opportunities for negotiation of meaning through the use of conversational adjustments and other communication strategies (Varonis & Gass, 1985; Porter, 1986), and this study certainly confirms that view.

As stated earlier, this research, unlike the aforementioned studies, makes no claims about the effectiveness, for the acquisition of a second language, of the kinds of tasks and procedures used. Rather, the claims being made are in the area of second language use and communicative effectiveness. Therefore, in addition to supporting much of the work done previously, the current study adds to the body of information related to teaching and learning a second language.

Limitations

As with almost any investigative research which involves the use of human subjects, this study is limited by several factors. One major limitation is related to the population of learners from which the sample was drawn. The subjects may not be representative of those found in a typical ESL classroom, as far as English language proficiency, language background, and general learning background are concerned. They are highly intelligent, highly motivated adults who have achieved a relatively high level of proficiency in the English language. Furthermore, the first languages of many of these students may not be representative of large numbers of ESL students. Many Indian students in particular do not think of themselves as ESL students. There may be a very specific effect associated with these

students who consider that they use English as a non-native variety rather than as a second language.

A further point with regard to the population concerns the Receiver group. Once again, this population may not be representative in their behavior as Receivers. The learning and cultural background of the Chinese students may have made them respond more passively than students with, for example, French L1s, German L1s, or Spanish L1s. In this study, the actions and reactions of the Receivers seem to have little impact on the performance of the Senders. However, if the Receivers had been more aggressive in their responses to the Senders' directions, the behavior of the Senders may have been affected.

An additional limitation with regard to the subjects is the manner in which they were paired to perform the tasks. As is evident from the research design, the results are tied to the high-proficiency/low proficiency arrangement of the subjects. Most ESL classrooms are set up with homogeneous groups, which would make it difficult to arrange students in such a way. Also, one must keep in mind that high proficiency and low proficiency are relative concepts, especially when referring to high advanced and low advanced students. The effects may not be the same with high beginners and low beginners. Until research is done with that perspective, we cannot assume that these results will carry over to those kinds of groups.

Another area of limitation within the research was the time constraint under which the subjects had to work. An intervention of fifteen minutes is adequate for research purposes, but it is quite unrealistic in terms of classroom activities or instruction. Also, although most subjects were able to complete the tasks within the allotted time, there were a few instances where

real communication problems prevented some participants from finishing some tasks. Perhaps if they had been given additional time the subjects would have found solutions to more of the problems in the tasks.

In the future, some minor revisions to the task materials may help to prevent certain difficulties which interfered with the timely completion of the tasks. For example, an indication of a starting point and a finishing point may alleviate some confusion among subjects when they are trying to get started on both the map tasks and the diagram task.

It is clear that personality differences played a role in the performances of subjects on all of these tasks. Some Senders were inherently more or less tolerant and patient than others, and some Receivers were more or less willing to exhibit their lack of understanding to the Sender. Moreover, the perception of dominant and non-dominant role between partners could have affected the interaction and the outcome of the tasks.

Gender differences surely have an effect on an interactive task such as this; however, this experiment contained no controls for gender, except that no female Senders were paired with male Receivers. When a female was placed in the Sender role she also had a female Receiver. There were cases of male Senders to female Receivers, but the variable of gender was not the focus of this investigation.

Another area of limitation concerns the possible effects of the written directions for the diagram task. The instructions were worded somewhat differently from those for the two map tasks and may have influenced the Senders to behave in a different manner on the diagram task. It should be noted, however, that all the subjects received the same set of instructions for

each of the tasks. That is, all participants in the diagram task were operating under the same conditions and with the same materials.

Finally, as is true with nearly all empirical studies involving small sample sizes, caution must be exercised in generalizing these results beyond the narrow confines in which the research was conducted. Practical considerations made a larger number of subjects impossible for this study.

Suggestions for Further Research

Future research in this area can clearly go in a number of directions. Some directions are suggested by the limitations mentioned earlier. It would also be interesting to investigate the effect of the task conditions with younger ESL students, teenagers in particular. Similar tasks have been used for native speaking adolescents, and a basis for comparison might be found. It would also be worthwhile to examine the behavior of students with L1s different from those in this study, in both the Sender and Receiver roles, to see what effect is found using students with other language and educational backgrounds.

Putting native speakers in the role of Receiver would almost certainly produce results different from the ones obtained here. In this study a perception of non-dominance for the role of the Receiver was evident, in terms of both the transfer of information and language proficiency. A native speaker in that role might change that perception, at least in terms of language use, and the effects on the dynamics of the interaction would be worth investigating.

Another approach to this study would allow students time after completing the tasks to go back through them again. It would be noteworthy to discover whether a review of their own performance would motivate

students to find the mistakes they made while trying to arrive at solutions to the referential problems. Furthermore, if they could locate the situations which were problematic, they could possibly provide more effective solutions. Taking this approach one step further, students could be given the opportunity to listen to their taped performances on the task and reflect on their behavior, with both the Sender's and Receiver's maps or diagrams in view. It might be the case that this reflection would be more beneficial than either of the interventions.

An area of research that will surely be explored in the near future is an investigation of the effect of the two interventions on features of formal aspects in the speech of subjects who perform these tasks. Because that was the focus of one of the interventions in this study (Condition II), it would be worthwhile to examine that aspect of the speaker's language behavior. By isolating particular utterances which were mispronounced, ungrammatical, or inappropriate in the language of the Sender on the first task, an analysis of subsequent uses of those items might reveal a change away from or toward the target language. In the present study, the majority of the Sender population was drawn from Indian English speakers who exhibit relatively few problems in pronunciation or grammar but who frequently have difficulty with appropriate language use and prosodic features. A comparison of the behavior following each of the interventions might produce very interesting results.

Pedagogical Implications

The results of this research indicate that a language teaching approach that focuses learners' attention on the linguistic form of their attempts to express themselves in the second language may lead them to do more than

simply focus on form, but to constantly try to improve it. Such an approach may make the learners become absorbed in their own production, to the neglect of other features of successful communication. This situation connects to a warning that Krashen (1978) made regarding the problems of over-monitoring. He found that learners who over-monitored their own speech were very hesitant speakers and did not progress very quickly in the area of spoken language because they were overly concerned with the accuracy of their production. This over-monitoring effect that Krashen described from a different perspective may be an outcome of a teaching mode that leads learners to think of grammatical and phonological accuracy as the ultimate goal of second language learning. The present research shows that such a concentration on form makes the learners more self-centered, not only linguistically, but in also terms of information exchange and communicative effectiveness. They are much less likely to take their listener's needs into account. Hence, I can add to Krashen's over-monitoring concept to include that, in addition to an over-monitoring effect in terms of linguistic form, there can be an over-indulgence in self and an over-concentration on one's own performance in a communication event, potentially caused by materials which focus the learner on linguistic form.

I further discovered that an intervention with an emphasis on referential function confirms research in this area (Yule, in press; Yule & Macdonald, 1990) that negotiated solutions to these types of problems in international communication (i.e., in a typical ESL classroom) benefit from teaching materials where the learner is encouraged to focus on the interlocutor's world. I observed the effects of this kind of attention to listener-directed behavior during the intervention in Condition I.

It may be the case that in the use of English as an international language, where it is used as the language of cross-cultural communication between non-native speakers who do not share a first language, the need to take one's listener's world of reference into account would assume much larger proportions. The present study is a micro-analysis of a specialized world; however, one might consider a situation in which a Nigerian corporate executive and a Japanese executive attempt to transact business, not taking each other's worlds of reference into account, and having great difficulty communicating. In this sense, my research and others' (e.g., Yule, 1990), have enormous relevance to the world outside the classroom language learning environment. In fact, the expectation of worlds of reference not matching in intercultural communication should be the norm. Too little attention has been paid in L2 teaching and learning to the idea that we not only have individuals with different first languages learning English as a second language; we also have people with different world views, with different expectations of what a point of reference will be, and with different assumptions about the way the world is. Until now, those in the field of second language teaching have paid very little attention to the communicative repercussions of such a cultural state of affairs.

The kind of research reported here represents a beginning in looking at issues such as materials design and methods of instruction which will impact second language learning with increased frequency in the future. Following Yule's (1989) observation: "... if there is no clear evidence that methods and materials bring about positive changes in spoken language performance, then their attractiveness, no matter how theoretically justified in the abstract, will fade in the cold fluorescent light of the real language classroom" (p. 168).

University classrooms offer opportunities for developing the kinds of materials which will meet the needs of learners in the broader sense of real-world experiences. In the past we have been very reluctant to use materials which cause problems for learners. The tasks used in this research do cause problems - speakers disagree, lose their patience and even argue, in the process of resolving the difficulties they encounter during these activities. The purpose, of course, is not to cause problems, but to provide opportunities for resolving differences creatively and through communication. Judging by materials currently used for language learning purposes, we tend to see the world from an unrealistic, rosy point of view, where everything is simple and people do not have arguments and disagreements. It is clearly the case that life is full of situations where points of view clash and compromises must be made if people are to coexist. Teachers are not preparing learners to cope with the difficulties of life beyond the classroom and to resolve the conflicts that will inevitably arise. A true learner-centered curriculum should address the real needs of learners beyond the confines of the classroom.

The primary function of the kind of research reported in these pages is to enable us to learn more about the effects, on learner performance, of the decisions made by teachers concerning materials, procedures, and learner arrangements in the language classroom. Communicative effectiveness in English as a second language appears to be fostered by a learning event which focuses attention on interlocutor needs rather than on the speaker's performance. It is a small discovery, but one which can move us forward toward making well-motivated and better-informed decisions about how to help second language learners have more effective classroom learning experiences.

Interactive, information-exchange tasks continue to be valuable resources for improving communication skills among L2 learners. The effective use of those materials is an area that requires closer examination. According to Nunan (1988):

There still remains a great deal of empirical work to be done, particularly in terms of establishing difficulty levels for task types and establishing the degree of learning transfer from one task type to another. However, at this stage, the methodological implications of task syllabuses look promising in that they attempt to integrate insights from classroom-acquisition research and principles of learner-centred curriculum design. (p. 86)

This is an optimistic point of view and one which I endorse. Results of the present research confirm the potential benefits of interactive tasks, as tools in classroom-acquisition research and as valuable instructional materials in learner-centered classrooms.

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Appendix A

Table A - 1Arrangement of Subjects by Task and Condition

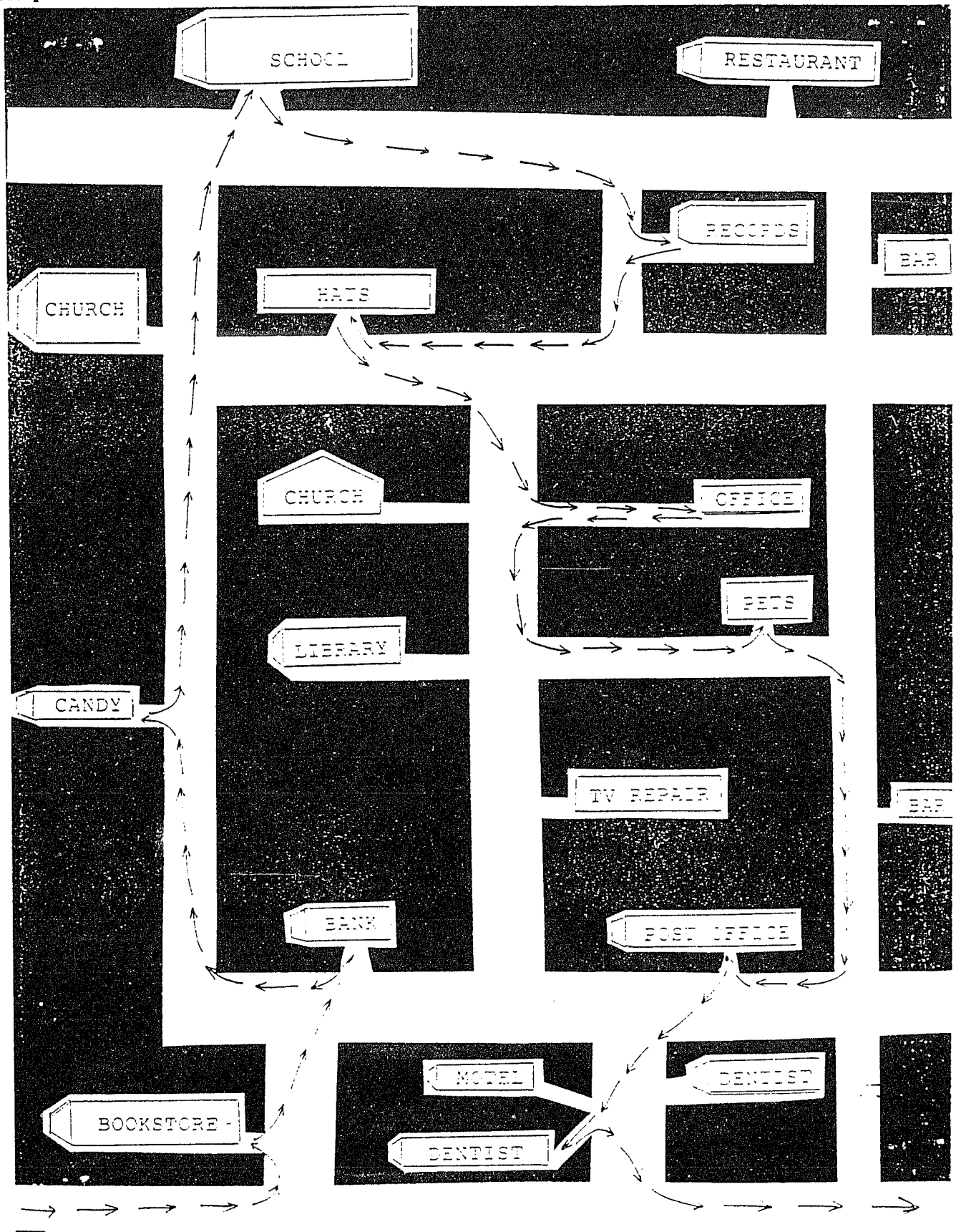
		<u>Map1</u>	<u>Map 2</u>	<u>Diagram</u>
<u>Condition I</u>	<u>S1-I</u>	<u>R1-C</u>	<u>R2-C</u>	<u>R3-C</u>
	<u>S2-I</u>	<u>R4-C</u>	<u>R5-C</u>	<u>R6-C</u>
	<u>S3-I</u>	<u>R7-C</u>	<u>R8-C</u>	<u>R9-C</u>
	<u>S4-I</u>	<u>R10-T</u>	<u>R11-C</u>	<u>R12-C</u>
	<u>S5-B</u>	<u>R13-T</u>	<u>R14-C</u>	<u>R15-C</u>
<u>Condition II</u>	<u>S6-I</u>	<u>R16-C</u>	<u>R17-C</u>	<u>R18-C</u>
	<u>S7-I</u>	<u>R19-C</u>	<u>R20-C</u>	<u>R21-C</u>
	<u>S8-I</u>	<u>R22-K</u>	<u>R23-K</u>	<u>R24-C</u>
	<u>S9-I</u>	<u>R25-K</u>	<u>R26-C</u>	<u>R27-K</u>
	<u>S10-I</u>	<u>R28-K</u>	<u>R29-K</u>	<u>R30-C</u>
<u>Condition III</u>	<u>S11-I</u>	<u>R31-K</u>	<u>R32-C</u>	<u>R33-C</u>
	<u>S12-I</u>	<u>R34-C</u>	<u>R35-K</u>	<u>R36-C</u>
	<u>S13-I</u>	<u>R37-C</u>	<u>R38-C</u>	<u>R39-J</u>
	<u>S14-I</u>	<u>R40-C</u>	<u>R41-C</u>	<u>R42-T</u>
	<u>S15-I</u>	<u>R43-C</u>	<u>R44-C</u>	<u>R45-C</u>
<u>Condition IV</u>	<u>S16-I</u>			<u>R46-T</u>
	<u>S17-I</u>			<u>R47-C</u>
	<u>S18-I</u>			<u>R48-C</u>
	<u>S19-G</u>			<u>R49-C</u>
	<u>S20-I</u>			<u>R50-C</u>

S = Sender; R = Receiver

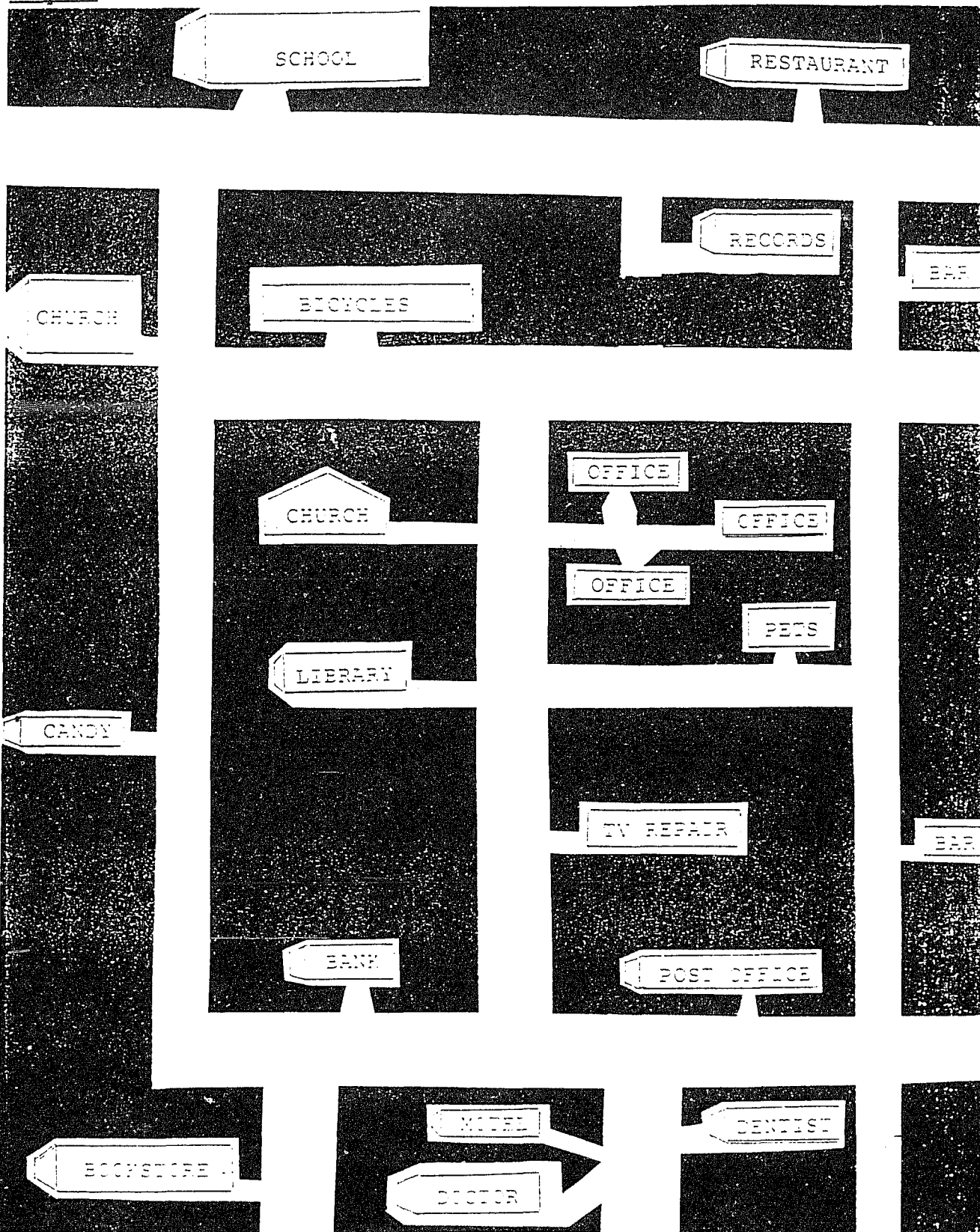
I = India; C = China (PRC); K = Korea; B = Brazil; T = Taiwan; J = Jordan; G = Greece

Appendix B

Map 1A



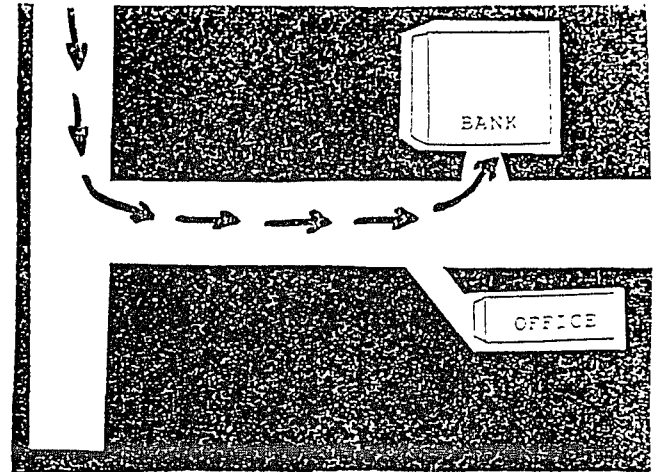
Map 1B



Appendix C

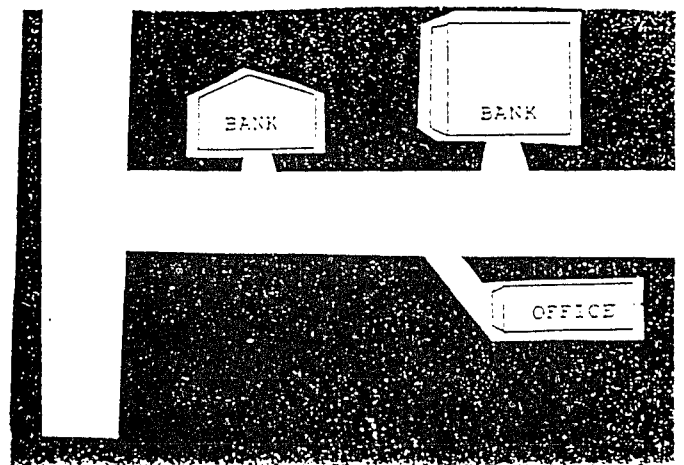
Intervention, Condition I

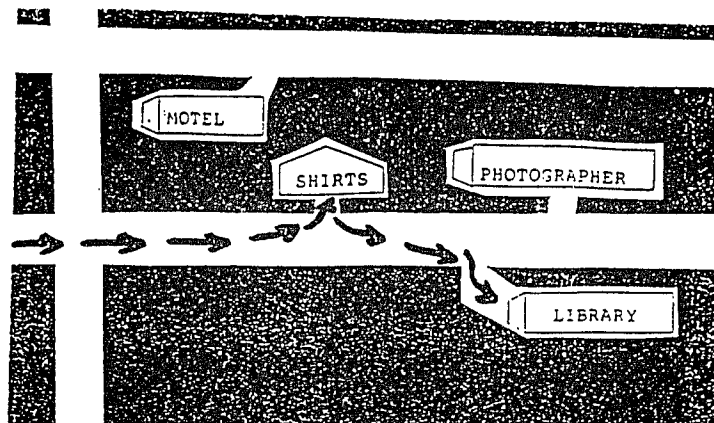
SPEAKER A's MAP



- A: next go to the Bank
 B: there are two Banks
 A: two Banks?
 B: yes
 A: okay go to the first one

SPEAKER B's MAP



Intervention, Condition ISPEAKER A'S MAP

A: okay cross the intersection and go to Shirts

B: Shirts?

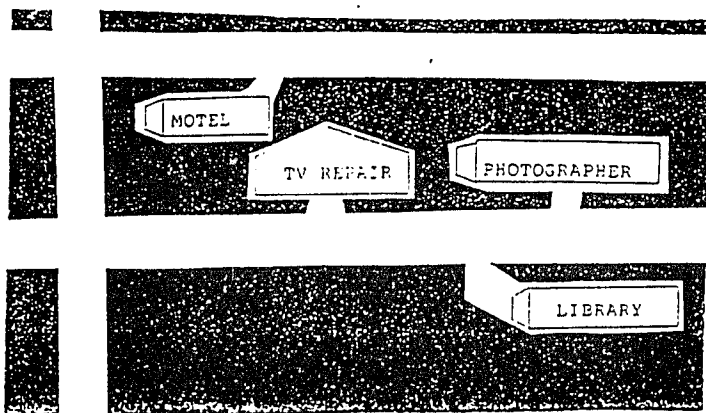
A: Shirts, Shirts

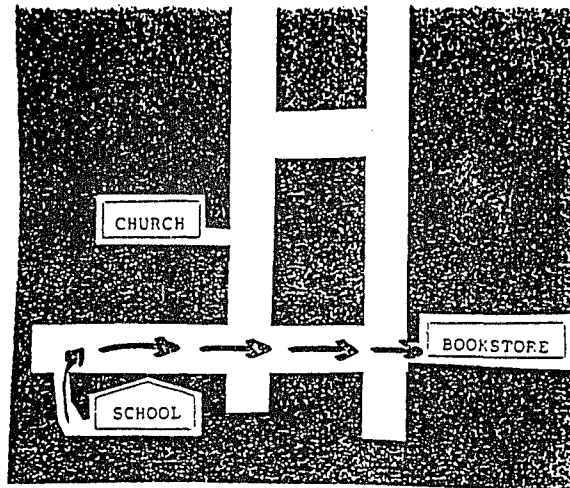
B: I haven't got a Shirts

A: You haven't got Shirts?

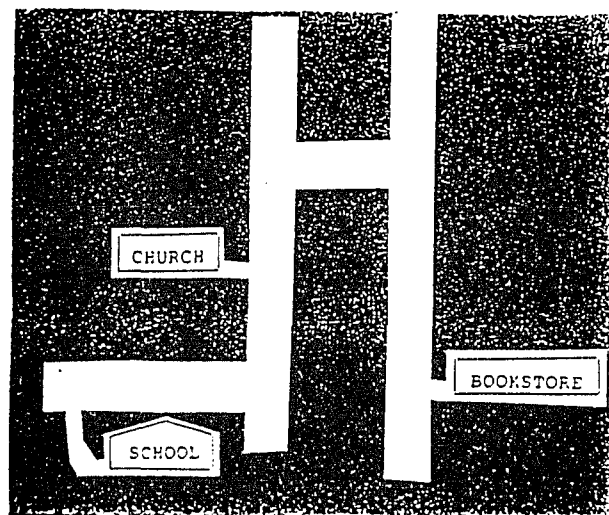
B: no

A: then you just go to Library

SPEAKER B'S MAP

Intervention, Condition ISPEAKER A's MAP

- A: come out the School turn right and go straight
 B: go where?
 A: go straight across the intersection
 B: I can't go straight
 A: yes go forward - go straight ahead
 B: I can't - I can go left or right
 A: you can go straight to Bookstore
 B: Is Bookstore next?
 A: Yes go straight through to Bookstore
 B: Okay I found it

SPEAKER B's MAP

Intervention, Condition IIGrammatical/Lexical/Pronunciation Problems

1. . . . you next come to intersession after church. . .

Better to say_____

2. . . . in my left - in the left-handed part - there is school . . .

Better to say_____

3. . . . but which one - office north - office south - which I go?

Better to say_____

4. . . . there is a T-juncture after it bank . . .

Better to say_____

5. . . . stop at the other one dentist . . .

Better to say_____

6. . . . we are not having the bicycles store here . . .

Better to say_____

7. . . . you no pets on that road?

Better to say_____

8. . . . this is name as church on my map . . .

Better to say_____

9. . . . okay, you have just went to cafe [ke:f] . . .

Better to say_____

10. . . . next you turn at the next join of the road . . .

Better to say_____

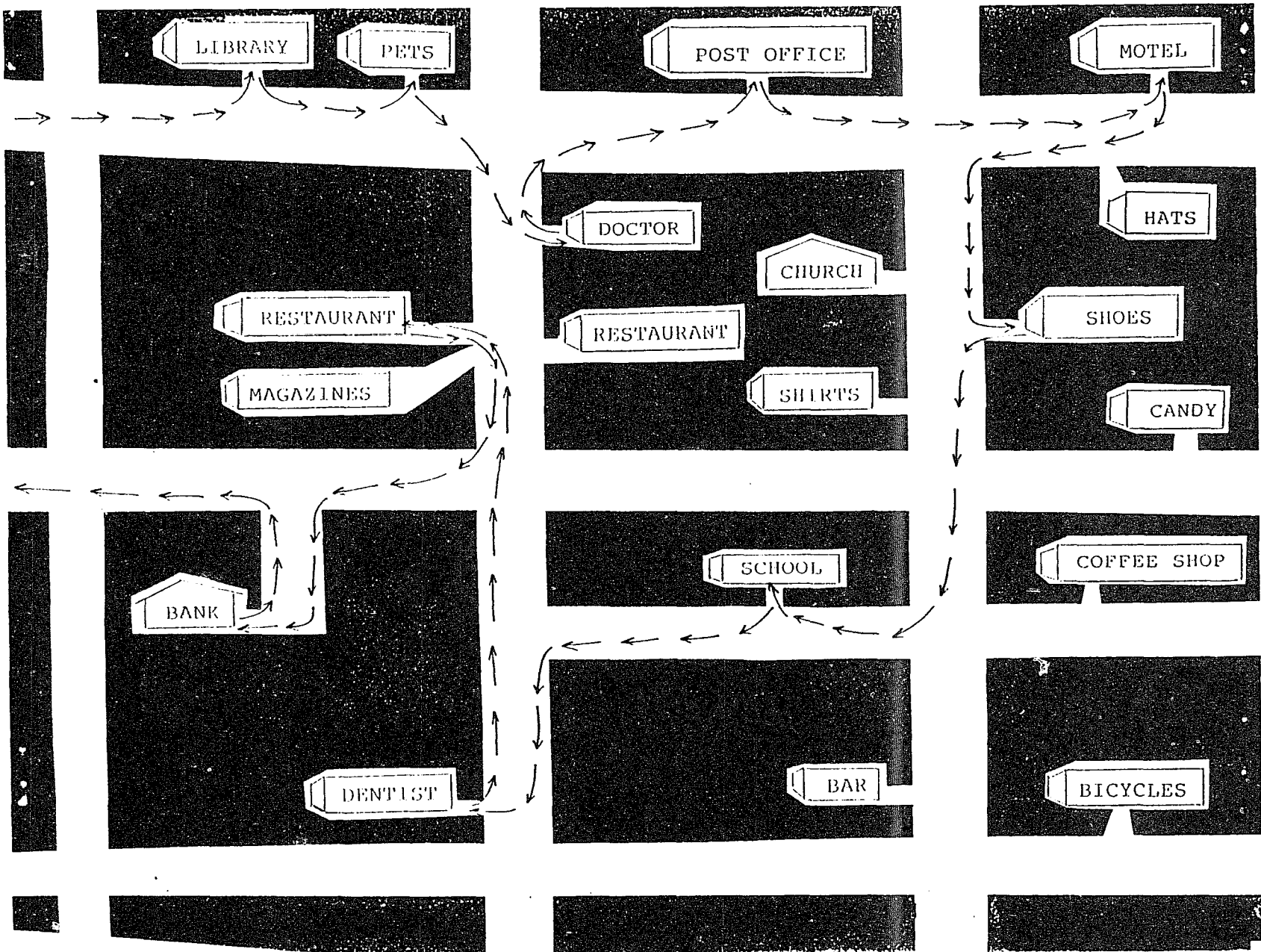
11. . . . if you go bank direction you find next road . . .

Better to say_____

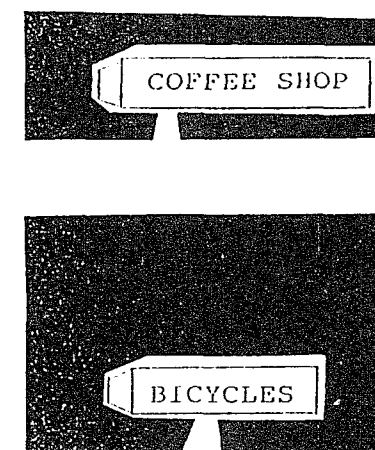
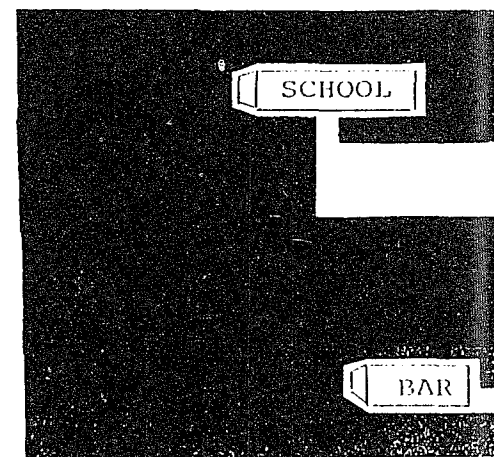
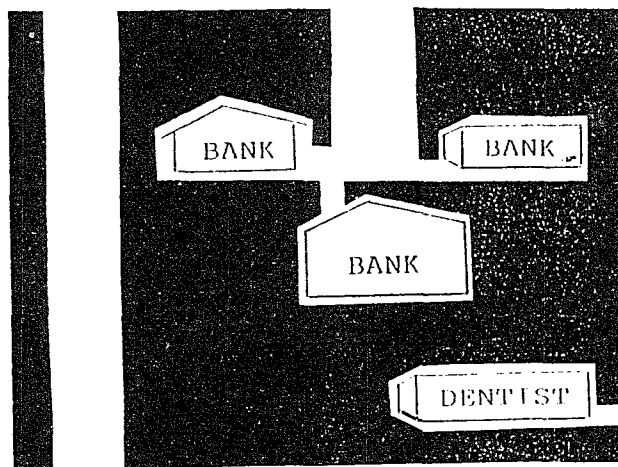
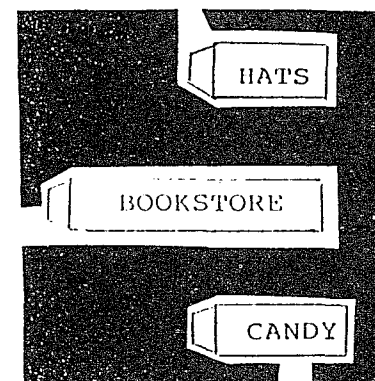
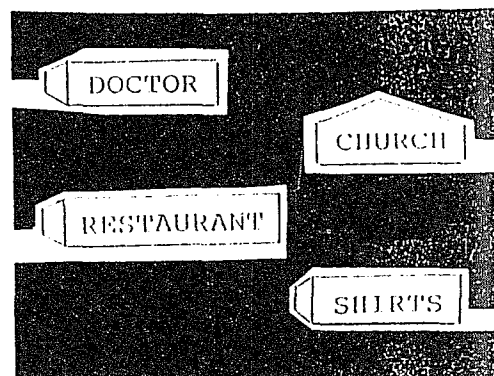
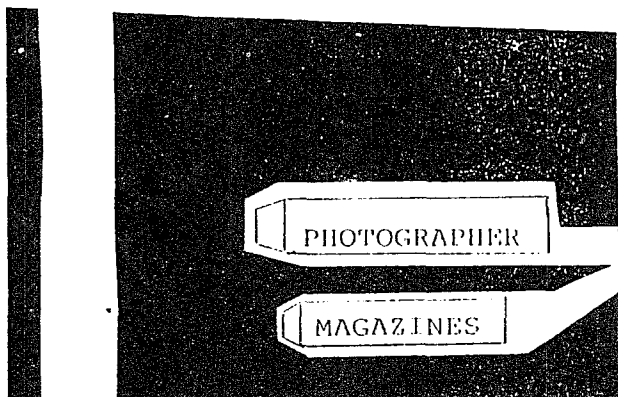
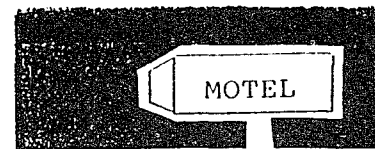
12. . . . but I don't bicycles - here is not that . . .

Better to say_____

Appendix D



Map 2A



Appendix E

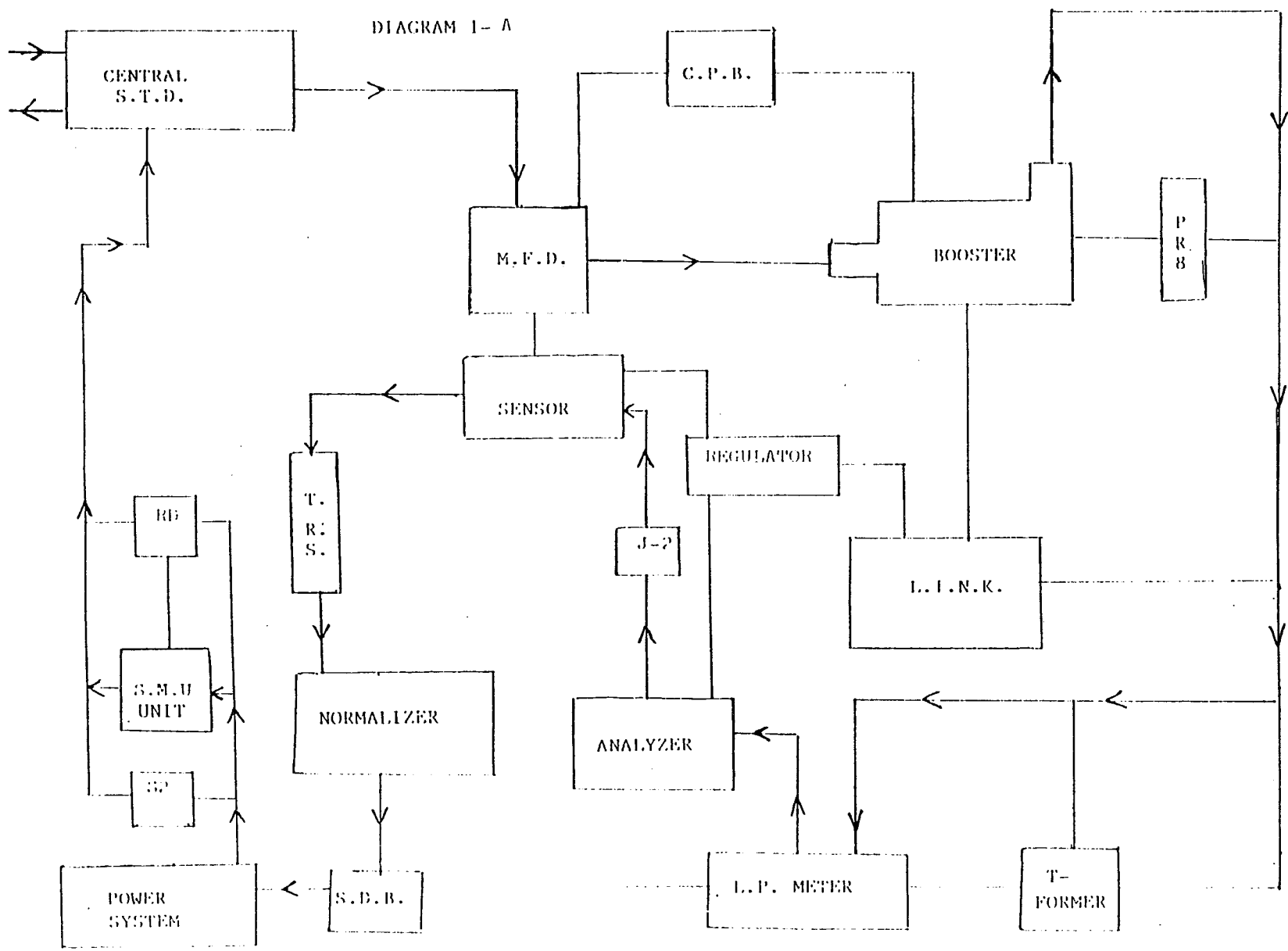


Diagram 1

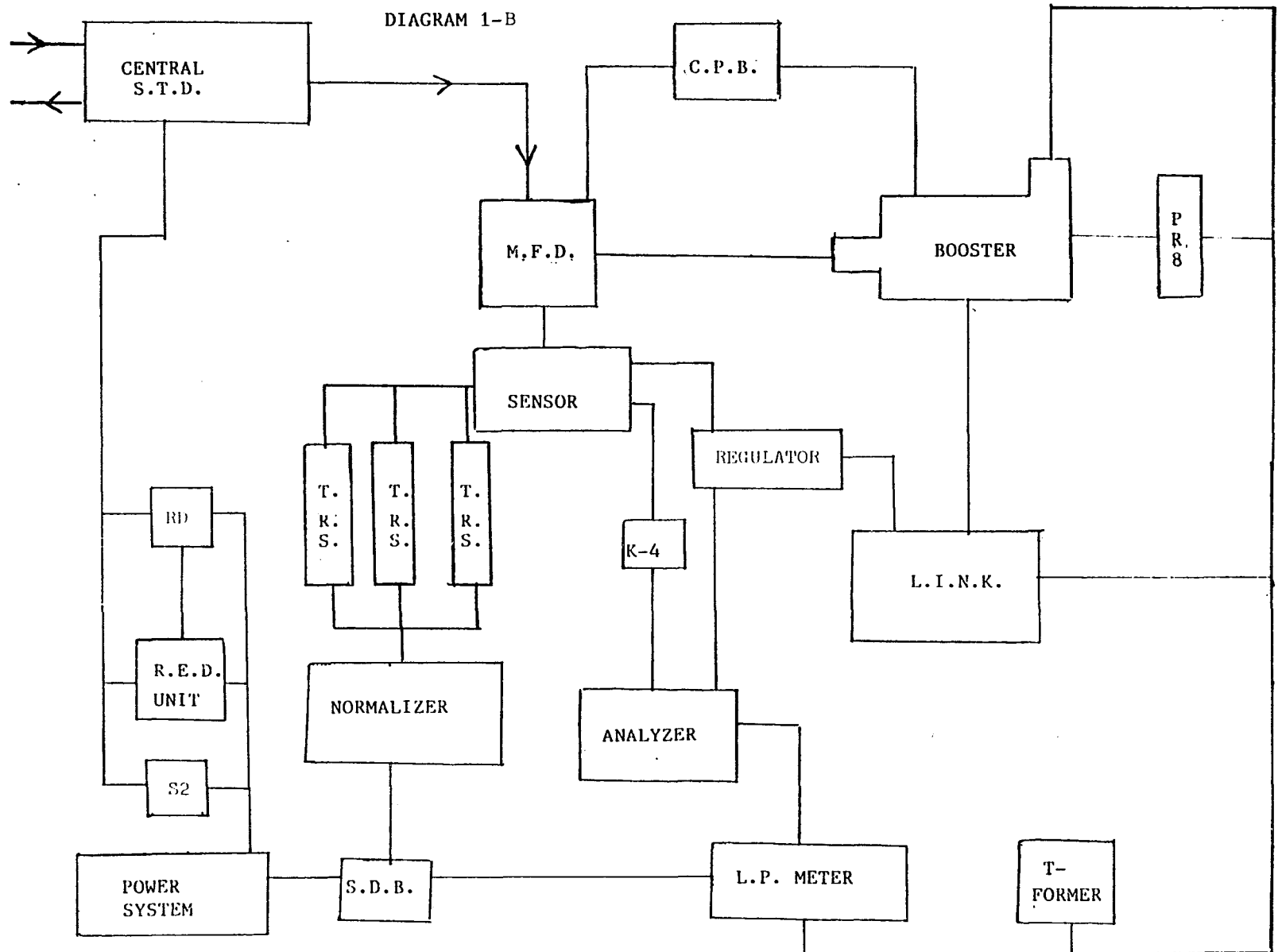


Diagram 2

Vita

Margaret Ann Powers received her B.A. degree in Spanish from Louisiana State University in 1970. She worked in social services for ten years for the Louisiana and Tennessee Department of Human Services. In 1983 she graduated from the University of Southwestern Louisiana in Lafayette with a B.A. degree in Spanish Education. She has taught English and Spanish at the high school level. In 1985, Ms. Powers received a M.A. degree in Teaching English as a Second Language from Tulane University in New Orleans, Louisiana. After completing her degree, she taught English as a second language at the Tulane ESL Institute while pursuing a Ph.D in second language education and linguistics at LSU. During her doctoral studies she was awarded a teaching assistantship and has taught Developmental Reading, Principles and Practices of Education: K through 12, and Spoken American English to international graduate students. She has also been responsible for the supervision of elementary and secondary student teachers.

Ms. Powers has presented papers at the Louisiana affiliate of Teachers of English to Speakers of Other Languages and the National Reading Conference. Her article, entitled "The Variable Effects of Some Task-based Learning Procedures on L2 Communicative Effectiveness," has been accepted for publication in Language Learning, a journal of Applied Linguistics. Ms. Powers has accepted a position as Assistant Professor of ESL and Coordinator of ESL graduate teaching assistants at West Virginia University.

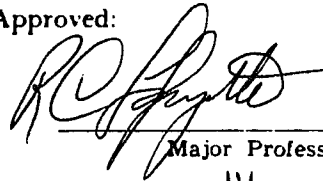
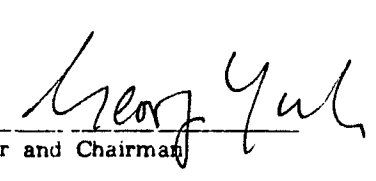
DOCTORAL EXAMINATION AND DISSERTATION REPORT

Candidate: MARGARET ANN POWERS


Major Field: EDUCATION

Title of Dissertation: THE VARIABLE LEARNING EFFECTS OF TWO TYPES OF INTERVENTION ON
L2 COMMUNICATION SKILLS USING INTERACTIVE TASKS

Approved:

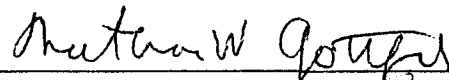
 

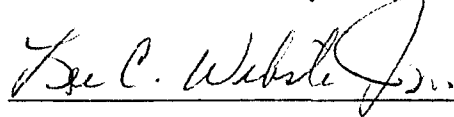
Major Professor and Chairman

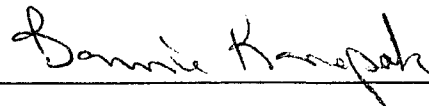


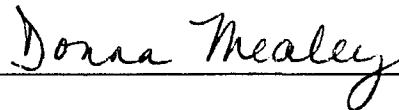
Dean of the Graduate School

EXAMINING COMMITTEE:









Date of Examination: